FLIGHT

MAGAZINE

MARCH 1955
35 cents

TECHNOLOGY DEPT.

V43#3

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DETROIT

Production Model Camair 480

(See page 14)

Here, at the Scintilla Division of Bendix, the word SERVICE is much more than the name of a department. It is a vitally important part of our over-all operations. Together with Research, Engineering and Manufacturing—Service might well be termed the fourth dimension of our business.

To implement this policy of following through to see that every customer gets the full performance built into each product, the Scintilla Division has a world-wide service organization backed up by factory-trained service men strategically located to meet service emergencies.

Service data, covering installation, operation and repairs as well as adequate distribution of parts, makes up a complete service program.

Just another reason why the name Bendix has become "The Most Trusted Name in Ignition."

SCINTILLA DIVISION

OF

Bendix
AVIATION CORPORATION

SIDNEY, NEW YORK

Bendix

AVIATION PRODUCTS

Low and high tension ignition systems for piston, jet, turbo-jet engines and rocket motors . . . ignition analyzers . . . radio shielding harness and noise filters . . . switches . . . booster coils . . . electrical connectors.

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FACTORY BRANCH OFFICES: 117 E. Providencia Avenue, Burbank, California • Brouwer Building, 176 W. Wisconsin Avenue, Milwaukee, Wisconsin
Stephenson Building, 6560 Cass Avenue, Detroit 2, Michigan • 512 West Avenue, Jenkintown, Pennsylvania • 582 Market Street, San Francisco 4, California

NATION-WIDE **SALES & SERVICE** ORGANIZATION

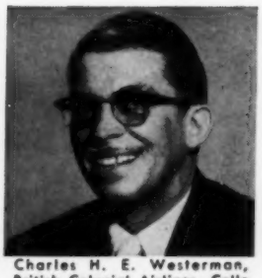
AERO DESIGN Commander 560

Don Pennington, Southern Aero, Inc., Municipal Airport, Atlanta, Georgia.

H. Leibee Wheeler, Buffalo Aeronautical Corporation, Buffalo Municipal Airport, Buffalo, New York.

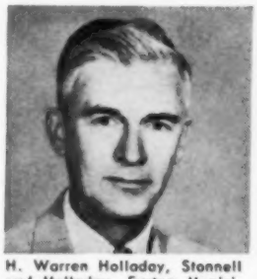
Gene Hudman, Carolina Division of Southern Aero, Inc., Charlotte, North Carolina.

Peter Graves, Southern Ohio Aviation Sales Co., Dayton Municipal Airport, Vandalia, Ohio.



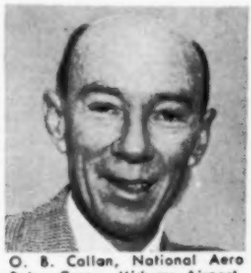
Charles H. E. Westerman, British Colonial Airlines, Calle Lopez No. 1 — Despacho 502 Mexico, (1) D.F., Mexico

Art Meurer, Arthur Meurer Co., Inc., LaGuardia Field, New York, N. Y.

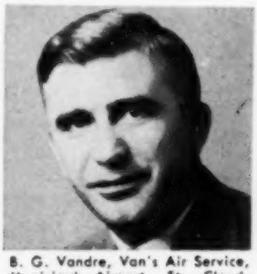


H. Warren Holladay, Stonnell and Holladay, Easton Municipal Airport, Easton, Md.

Don Hood, Air Sales & Service, Inc., Weir Cook Municipal Airport, Indianapolis, Indiana.



O. B. Callan, National Aero Sales Corp., Midway Airport, Chicago, Ill.



B. G. Vandre, Van's Air Service, Municipal Airport, St. Cloud, Minnesota.

Robert F. Wood, Newport Air Park, Newport, Rhode Island.

Louis Humphreville, Executive Aircraft Corp., Detroit City Airport, Detroit 13, Michigan.

Don Vest, Vest Aircraft & Finance Co., P. O. Box 5306, Sky Ranch Airport, Denver, Colorado.

A M "Sime" Bertolet, Reading Aviation Service, Inc. Municipal Airport, Reading, Pennsylvania

Max R. Brand, Aero Commander Distributors, Hangar 3, P.O. Box 8426, Municipal Airport, Tulsa, Oklahoma.

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NATION-WIDE SALES and SERVICE

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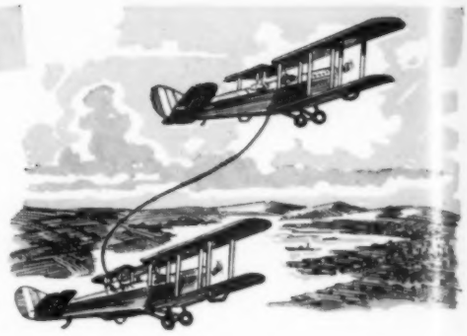
TULAKES AIRPORT • OKLAHOMA CITY, OKLAHOMA

Phillips 66
PRESENTS

MILESTONES IN AVIATION

Fill 'er up!

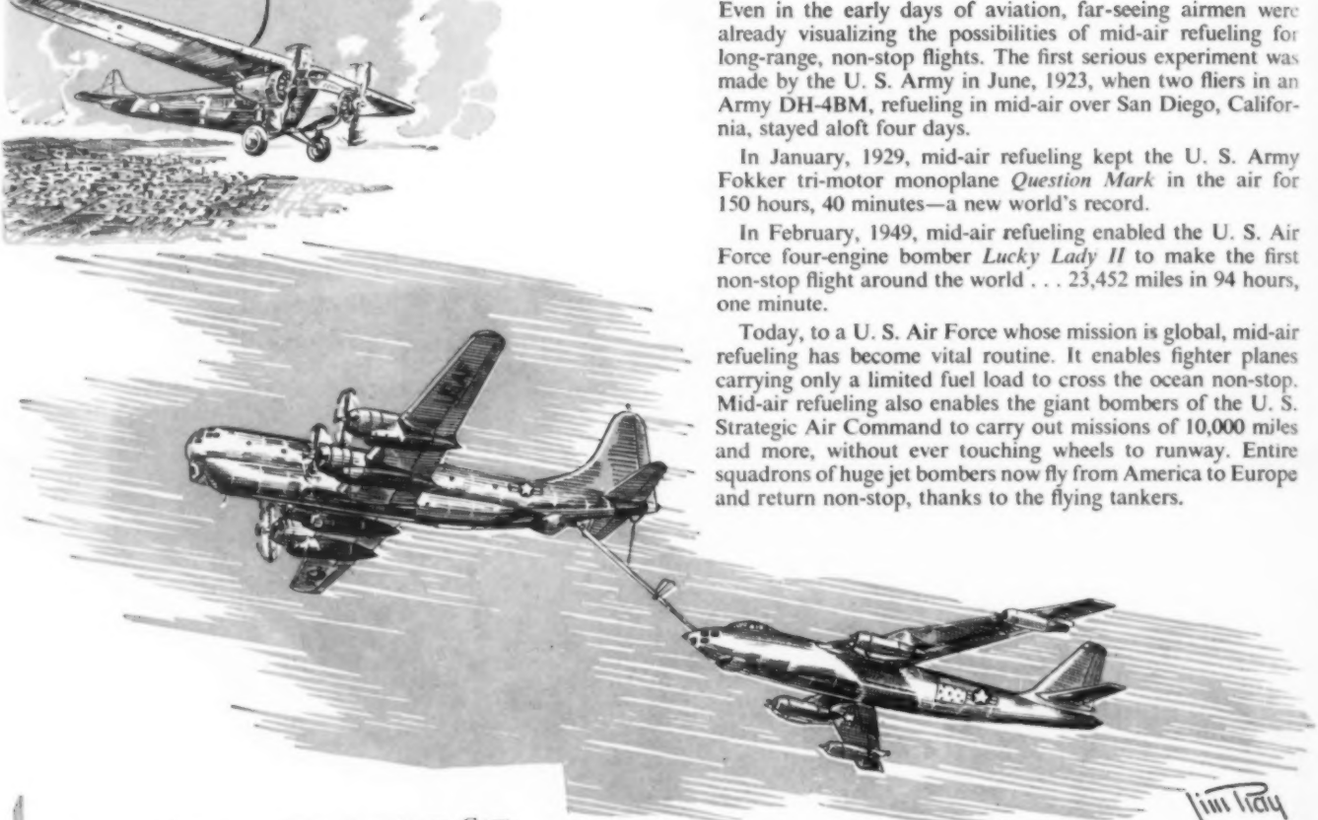


Even in the early days of aviation, far-seeing airmen were already visualizing the possibilities of mid-air refueling for long-range, non-stop flights. The first serious experiment was made by the U. S. Army in June, 1923, when two fliers in an Army DH-4BM, refueling in mid-air over San Diego, California, stayed aloft four days.

In January, 1929, mid-air refueling kept the U. S. Army Fokker tri-motor monoplane *Question Mark* in the air for 150 hours, 40 minutes—a new world's record.

In February, 1949, mid-air refueling enabled the U. S. Air Force four-engine bomber *Lucky Lady II* to make the first non-stop flight around the world . . . 23,452 miles in 94 hours, one minute.

Today, to a U. S. Air Force whose mission is global, mid-air refueling has become vital routine. It enables fighter planes carrying only a limited fuel load to cross the ocean non-stop. Mid-air refueling also enables the giant bombers of the U. S. Strategic Air Command to carry out missions of 10,000 miles and more, without ever touching wheels to runway. Entire squadrons of huge jet bombers now fly from America to Europe and return non-stop, thanks to the flying tankers.



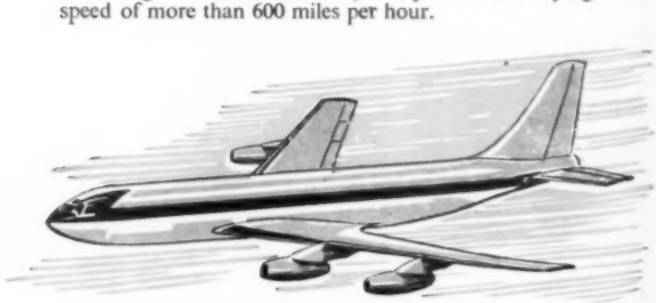
For many years, Phillips Petroleum Company's research and development activities have been deeply concerned with aviation, and from Phillips laboratories have come many of the important discoveries that have resulted in producing high octane gasoline on an enormous scale. Phillips produces vast quantities of 115/145 grade aviation gasoline for military and commercial use, and is also manufacturing improved fuel for the latest designs in turbo-props and jets.

An important milestone in aviation was established by Phillips with the manufacture of Di-isopropyl and HF Alkylate, two power-packed aviation fuel components of utmost value to modern high-speed performance.

Operators know that Phillips *66* Aviation Products are always efficient and dependable.

AVIATION DIVISION
PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

The new U. S. Air Force Boeing KC-135 jet tanker (below), soon to go into service, will refuel jet bombers flying at a speed of more than 600 miles per hour.



Phillips 66

AVIATION PRODUCTS

AIR Report
Significant Trends and News

The Department of Defense is expected to send to Congress in March an **APPROVED AIRMEN TRAINING BILL** to provide for 35 hours of indoctrination flight training to some 16,000 Air ROTC cadets. U. S. Air Force will be designated as the action agency and training will be done under contract with approved civilian flight schools. The bill is similar to the one introduced last year in the closing days of the Congress — too late for action.

First casualties of the recent Air Navigation Development Board majority vote to recommend the **REPLACEMENT OF THE VOR/DME COMMON SYSTEM WITH THE MILITARY-SPONSORED TACAN SYSTEM** will be the users and manufacturers of distance measuring equipment. While the ANDB vote still has to go through the Air Coordinating Committee, which acts only on unanimous decisions by representatives from all government agencies concerned with aviation, there is little doubt but that the TACAN vote eventually will be sustained all the way to the White House. Requirements for DME interfere with TACAN requirements. VOR doesn't. Hence omni will be extended until 1965, DME to go on experimental basis June 30, next. Proponents of TACAN claim few people will be affected by stopping DME now — only those companies making the equipment and the companies who have installed DME on their airplanes. As yet no airlines are using DME.

TWIN-BONANZAS AND MODEL 18 TRANSPORTS AS WELL AS BONANZAS will be covered by free factory service inspections available to owners in the 7th annual Beechcraft safety and efficiency clinic program for 1955, which begins late in March and will be conducted at 30 points throughout the U. S. Beech distributors will invite owners to participate at no cost.

TURBINE POWER is expected in the new Army utility helicopter which Bell Aircraft will develop after winning a competition among 8 manufacturers. Only details released are that it will have a single main rotor, 800-lb. payload, 100-nm. cruise speed, 6,000-ft. hovering ceiling and 1,500-fpm. rate of climb. . . . **NEW NAVY ORDER** for Bell helicopters calls for 24 HTL-6 models (47-G type).

FIRST STATE COLLEGE SCHOOL FOR AGRICULTURAL PILOTS will be opened next fall by Texas A & M College at College Station, Texas. Idea was crystalized at last month's 4th Annual Texas Ag Aviation Conference and Short Course at the college, growing out of an appeal from the Texas Aerial Applicators Association and other groups for action. TAAA is contributing funds, 2 planes and instructors to the project, Piper Aircraft a PA18A airplane; Delta Air Lines a Stearman and other contributions are expected. A TAAA committee of Lloyd Nolan, Mercedes; Bill Lewis, Houston; Ralph Crosnoe, Texarkana, and Clint Frye, Chickasha, will work with Fred Weick, head of the Personal Aircraft Research Center at the college, to establish the school.

THE NEBRASKA DEPARTMENT OF AERONAUTICS has commissioned its first three VOR radio navigation and weather reporting stations — first state network of its kind. James D. Ramsey, director, said the three stations are Alliance State Radio, coded AIA, 117.2 mc; Ainsworth State Radio, coded ANW, 112.7 mc; and Norfolk State Radio, coded OFK, 113.9 mc. All guard 122.1 and 121.5 mc.

MORE AIRLINE PASSENGER MILEAGE THAN RAILROAD has been reported by domestic airlines for 1954. The figures were 17.7 billion passenger miles by air and 17.6 billion passenger miles by rail (excluding commuter rail traffic). Similar figures for bus travel were 18 billion and the outlook is for air traffic to overtake bus travel this year.

TWO MORE LOCAL SERVICE AIRLINES are going to more modern transports, Allegheny Airlines acquiring three twin-engine Martins and Mohawk Airlines three Convair 240's. Pioneer and Southwest are already operating Martins. Only the Mohawk Convairs will be pressurized. They were bought from Claire Chennault's Civil Air Transport, having been shipped here from China.

OFFICIAL HONORS FOR THE FATHER OF INSTRUMENT FLYING, the late Colonel William C. Ocker, have come 12 years after his death in the posthumous award of the Legion of Merit to his widow, Mrs. Doris Ocker, Tucson, Arizona. The award cited his pioneering work, which went unrewarded throughout his long career as a pioneer airman since 1912. . . . **MAJOR GENERAL**

(Continued on page 37)

FLIGHT MAGAZINE

Including SOUTHERN FLIGHT and MODERN AIRPORTS

MARCH, 1955 VOL. 43. No. 3

COVER: First flight of the new production model Camair 480 twin-engine Navion conversion is shown at sunset near Galveston, Texas, where Camair is producing the light twin. It is powered by Continental engines rated at 240 hp. each.

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GEORGE E. HADDAWAY, Editor-Publisher; TOM ASHLEY, Managing Editor; FRED N. STONES, JR., Business Manager, P. O. Box 750 (1901 McKinney Ave.), Dallas, Texas—Telephone STerling 2125.

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Allison T40 Turbo-Prop lifts Navy fighter straight up

When the Navy's revolutionary new interceptor — the Convair XFY-1 — takes off and lands, it gets all its lift from its dual rotating propellers which are driven by Allison T40 Turbo-Prop engines.

That means the power package produces greater thrust than the weight of the aircraft for take-off and slightly less thrust than weight for landing. This delicate landing operation requires the engine to deliver positive and dependable power in the exact amount called for by the pilot.

The Allison T40 engine twin power sections deliver a mighty 5850 horsepower for take-off. In level flight the pilot can shut off one power section to efficiently cruise or he can open the throttle wide on both power sections for maximum power and speed.

This VTO fighter was designed to take off and land from a destroyer's fantail or a freighter's deck which means that each ship in a convoy can carry her own defense against attacks for the entire voyage — promising greater safety for these surface craft.

Along with Convair and the U. S. Navy, Allison takes great pride in the spectacular success of this new type aircraft and in the simple accolade — "Well Done."

GM
GENERAL MOTORS

Allison
Division of General Motors,
Indianapolis, Indiana

. . . going places and getting things done faster . . .

The BEECHCRAFT Twin-Bonanza is the new favorite with those who want to go faster with more comfort and more luxury. BEECHCRAFT quality is apparent from the first glance, and that's real assurance of extra value, the ultimate of air travel.

Travel is most restful in the big, six-passenger, roomy, extra-quiet cabin with its built-in visibility and all its stretch-out roominess. Its *earning power* makes the new Twin-Bonanza a profitable investment in today's race for business expansion.

At full gross load this new twin-engine BEECHCRAFT has a cruising speed of 200 miles per hour, a range of up to 1,100 miles, and outstanding single-engine performance.

The time it takes to travel somewhere has long been the limiting factor for many busy men and women. But when business puts a BEECHCRAFT Twin-Bonanza on the company payroll, distant business and pleasure appointments are only short hours away . . . and there's a thrill in going places as you travel on your own schedules, at your own convenience, in a fast, comfortable hurry.

If you are considering the purchase of a new airplane in the next twelve months we would like to suggest you let the *J. D. Reed Company* tell you more about the new **Beechcraft Model C50 Twin-Bonanza** and what it can do for you—you'll be glad you did.

J. D. REED CO. INC.
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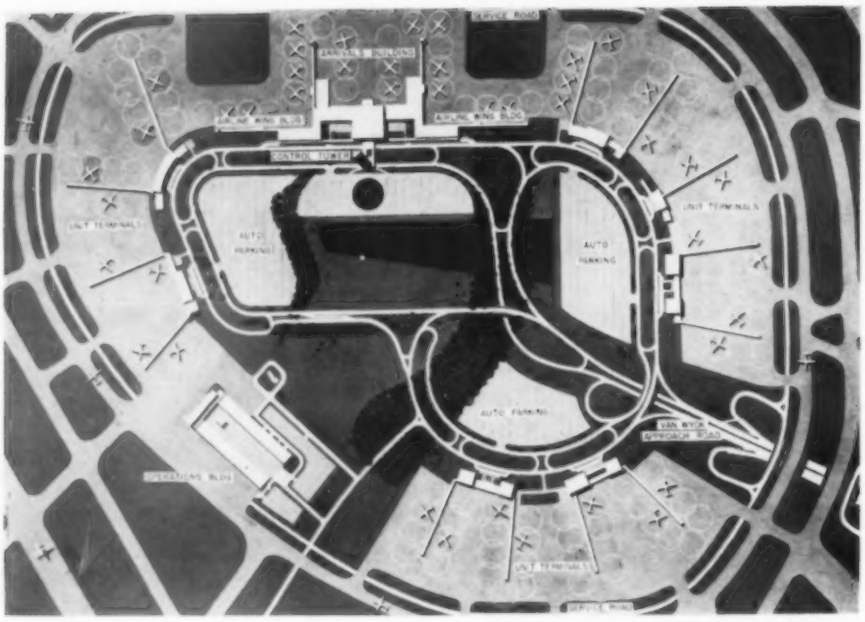
Beechcraft
MUNICIPAL AIRPORT
HOUSTON, TEXAS



IDLEWILD PLANS MULTI TERMINALS

The layout at left illustrates the New York Port Authority's $60,000,000 solution for meeting the airline traffic needs at Idlewild International Airport. The plan provides for a main terminal building (left) with "unit terminals" clustered around it. There are 15 finger ramps extending from all the units. They provide parking spaces for approximately 140 airliners at one time.

Van Wyck Approach Road is shown near the bottom right. It enters the terminal area with aircraft taxiways bridging its auto lanes. Inside the taxiway system is a network of ramp-side and street-side service roads. Three large auto parks serve the area. The terminal's operations building is below and left of center in the diagram.

Questions and Answers for Airport Operators

Inadequate Phone Facilities at Terminals

QUESTION: As an airport manager perhaps I should know the answer to the question I am going to ask you, but in this case the question did not arise from my work but from my recent experience traveling by air. I had a connection to make at a metropolitan airport, and in that town I have a brother. I wanted to call him on the telephone and talk to him while I was waiting for my connecting flight. It took me exactly nineteen minutes to get into a telephone booth. I'm glad the terminal wasn't on fire.

I'm thinking about our airline terminal in the somewhat smaller town in which I live. Only once in a great while do I see all the booths filled, so I think we are providing for all the service needed. What I want to know is this: Is there a formula or established criteria for determining how many public telephones are needed, using some factor based on passengers or terminal lobby occupancy?

ANSWER: There may be, but if there is, we do not happen to be familiar with it. If we were we would not take it as conclusive.

In the last year we have made trips which required making connections eight times at one metropolitan terminal. On each occasion we wanted to make calls to people we knew in that city. Some were business calls. Others were not. Each time we encountered the same trouble you experienced. This is a city in which it costs a dime to make a call from a public booth. We assume the city gets a standard percentage of all the collections. Yet there is a definite shortage of public telephones and nothing seems to have been done about it during the past year. Besides the evident inconvenience to the traveling public, the management of that airport is letting possible revenue-paying passengers walk away in disgust with their dimes still in their pockets.

The situation in this particular terminal is especially annoying. With the exception of single pay booths in the terminal fingers, the limited number of booths in the waiting room are divided into three groups, one at either end of the waiting room and one hidden away in a back corner.

This is what happens: You go to one end of the open waiting room. There you wait for someone to get out of one of the booths. There are one or three others waiting. You can look across the room and keep an eye on the group of booths at the other end of the room about two hundred feet away. You can't quite see whether they are filled or not. So you walk over there. They are full with two or four waiting. But you glance back at the first group and see someone coming out of a booth. You can't go back and get it before someone beats you to it. You should have stood put the first time. So you fiddle about impatiently and suddenly your roving eye catches a small sign that points to an obscure corner. There are some booths. They are full but there is no one waiting. You make for there and a couple of women stroll up ahead of you. You are no better off than you were but if you wait, ultimately you'll get a chance to spend your dime. That is if you are patient and have that much time between flights.

We think that kind of service is not understood by the public. That's the important thing.

But what we don't understand is how any manager can afford to let that much potential revenue go down the drain. Ten years ago we knew of four telephone booths in a terminal which turned into the airport treasury a total of three thousand dollars commission at five cents a throw. That's what makes us believe these booths we had trouble with must be worth a minimum of a thousand dollars a year to that airport. That is better than a hundred dollars per annum per square foot of space. We know of no other concession that pays as much except one or two small vending types. Six more booths and a rearrangement appear to be needed in that terminal and we believe they would pay at least five thousand a year.

There is no substitute for continued study on the part of airport management of all the elements of terminal operations that provide service and revenues. Formulas won't give the ultimate answer. Legwork and eyesight will.

Joint-Use Headaches for Airports

QUESTION: Pardon me for butting in. I'm not an operator. I'm a businessman who puts about 400 hours a year on his Cessna getting around the country in the furtherance of making two bucks grow where there was only one before, and I'm not referring to our Indian brothers. Air Force and Naval aviation is with us now. We get into the same pattern on many airports. Sitting around the coffee shops and the operators' offices and hanging over the airport managers' counters making with the gas slips, I hear more and more about

(Continued on page 40)

A modern traveling salesman story

CESSNA 310

Mr. X of the Y company covers a territory that would have been impossible a couple of decades ago. In his own (or a company plane) he travels fast, comfortably and free of restricting schedules. His type of travel is playing an increasingly important part in efficient business practice.

Important to Mr. X's convenience is the fact that he carries an Esso Aviation Credit Card. This entitles him to charge high-quality Esso Aviation Products at any one of more than 600 Esso Dealer Airports.

By merely producing this card and identifying himself, he can not only charge fuels and lubricants, but also tire and battery service, landing fees, overnight storage in transit, and minor emergency repairs—incidentally facilitating his bookkeeping.

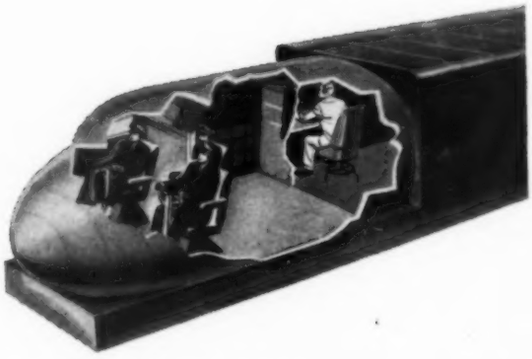
This growing corps of business flyers has learned to rely more and more on Esso Aviation Products—used by the world's largest airlines and backed by over 45 years of flight testing and research.

ESSO

AVIATION PRODUCTS

SIMULATORS

for the world's leading airlines



PAN AMERICAN crews will fly DC-7C's before they are delivered, using electronic SIMULATORS

From the very first flight of Pan American's Douglas DC "Seven Seas," PAA pilots and navigators will feel completely "at home," with a log of many hours of operational experience.

Such veteran familiarity with brand new equipment will be the result of Pan American's foresight in ordering the DC "Seven Seas" Simulator *ahead* of plane deliveries. For this global airline, with a Stratocruiser Simulator already in service, has long known the advantages of the Simulator over flight itself for perfecting crew efficiency.

An electronic Simulator recreates the crew compartment and controls of the airplane it represents, with blueprint accuracy. And in the DC "Seven Seas" Simulator, pilots and navigators—without leaving the ground—can fly this giant of the skies at new speeds that turn a journey into a jaunt—can cross all the oceans and continents of Pan American's worldwide routes, navigating by every modern device—can perfect take-off and landing procedures—can polish the skills that maintain Pan American's slogan of, "The world's most experienced airline."

Only through electronics is such flight reproduction possible. Only Curtiss-Wright with basic patent rights in this field, and its licensees, build Simulators and Duplicators for both the Armed Services and commercial airlines of the world.

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CORPORATION • WOOD-RIDGE, N. J.

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HAVE YOU FLOWN THE Tri-Pacer 150?

Fast, far-ranging, yet simpler to fly than any plane available today.

That's the new 150 horsepower 1955 Tri-Pacer 150 with over 130 mile-an-hour cruise, increased pay load, more climb and new, striking beauty.

Yes, the Tri-Pacer has all the performance needed for useful, time-saving, money-making business travel. It also combines the most features to simplify flying for the man just starting to use a plane for business—tricycle landing gear, simplified controls and built-in flight safety so characteristic of all Piper planes.

Whether you're just starting or an old hand, you'll find the Tri-Pacer 150 the ideal combination of solid, useful performance and flying ease...and priced far less than any other production 4-place plane. See the beautiful new 150 at your Piper dealer's today or write for new full-color brochure, Dept. F-3, Piper Aircraft Corp., Lock Haven, Penna.

THE TRI-PACER COMBINES THE MOST FEATURES TO SIMPLIFY FLYING

TRICYCLE LANDING GEAR takes much of the skill out of take-offs and landings, makes "stalling-out" unnecessary, eases handling in high winds. Exclusive on the Tri-Pacer in its class.

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BUILT-IN FLIGHT SAFETY. Piper has always made inherent flight safety paramount in every design. Tri-Pacer is spin-resistant, can only be stalled with most deliberate effort. It's a plane you can fly with utter confidence.

MORE PEOPLE HAVE BOUGHT PIPERS THAN ANY OTHER PLANE IN THE WORLD

PIPER AIRCRAFT CORPORATION
LOCK HAVEN, PENNSYLVANIA

BUSY

MOODBEAMS
4

The only thing busier than a modern housewife without an automatic dishwasher is a modern aeronaut without an automatic pilot.

Dishes can be cleaned nowadays at the flip-of-a-switch, enabling Dee Brock (24, 126 lbs., 5′7″, blonde, green-eyed) to settle down with a good book — or something. An airplane can be flown pretty much the same way — with an ECLIPSE-PIONEER PB-10 AUTOPILOT, enabling you to settle down in the luxurious role of monitor-only, making precision turns, controlling your altitude, neatly trimming the aircraft and, finally, through its FLIGHT PATH COMPUTER, locking into ILS to bring you safely and surely home down the Glide Path.

Write for an eye-opening CASE HISTORY of a SAC-installed PB-10 at work in one of the nation's busiest business airplanes; descriptive literature and cost estimates.

Southwest Airmotive COMPANY LOVE FIELD DALLAS

Just among ourselves

EDITORIALS

TACAN WINS THE FIRST ROUND

THE long and bitter battle between the military air services and civil aviation interests, over what kind of common system for air navigation this nation will have, came to a screaming climax last month when the Air Navigation Development Board announced it will be TACAN instead of VOR-DME.

It was a surprise victory for the military services and air transport industry as against the CAA and practically every other civil aviation interest outside the major airlines.

The bombshell hit when Robert Murray, Jr., former Undersecretary of Commerce, reversed the stand of the CAA, including Administrator Fred Lee and his staff of communications experts. Trojan Horse Murray, holding down his seat on the ANDB subsequent to his resignation from the high Department of Commerce post, probably will never satisfactorily explain his TACAN vote. He doesn't have to. But it is interesting to speculate why he sold the CAA's veteran public servants and communications experts completely "down the river."

For there is far more underneath the surface of the TACAN/VOR-DME struggle than one comes up against in all the debates and hearings. Some mighty big money is involved when you start replacing a common system of air navigation costing upwards of 300 millions of dollars with an experimental system that has to be completely re-engineered before it can be utilized. No eyebrows probably would be raised if TACAN really worked. But it doesn't work and the ANDB admits it in the announcement that VOR-DME is doomed, that TACAN must be re-engineered or "perfected" and in case it's unacceptable after spending more millions, they will back it up by developing a high frequency CW omni-range!

We believe the military air services and the Air Transport Association are sincere in their faith that TACAN ultimately can be perfected, provided old Uncle Sugar puts up the money. We are still trying at press time to get a reliable estimate of just how much it is going to cost. No one seems to know or else they just don't care to hazard a guess.

We have never quite understood the air transport industry's attitude, however. They are fighting tooth and nail the proposals that they be taxed a users' charge for the Federal Airways System. If and when TACAN replaces VOR-DME it wouldn't surprise us to see the Congress tender part of the bill to the air transport industry. They certainly are asking for it in the February TACAN decision.

Nor would we be surprised to see an upheaval within the CAA from the Administrator's post on down. The Murray vote rudely discredits Administrator Lee and his able technicians whose VOR-DME system actually works. The ANDB decision to limit use of civil DME to experimental purposes with no guarantee of service after June 30, next, is loaded with dynamite. Due to the large number of VOR sets in operation, there is little wonder that ANDB will permit VOR services, at least through 1965. But how about all the developmental costs of DME and all the airborne units now being installed and on order?

When the cost of this monkey business hits Congress we can expect some spectacular fireworks. Right now the most important move for everybody's benefit is to get it in Congress immediately and let the truth come out after full investigation. Otherwise we might as well turn our airways over to the military services and airlines and be done with it.

NEW BLOOD FOR CAB

LOOKS as though President Eisenhower's batting average on aviation appointments is improving somewhat with his proposing to the Senate that Ross Rizley of Guymon, Oklahoma, be made chairman of the Civil Aeronautics Board. Mr. Eisenhower has not distinguished himself in the field of aviation appointments. Maybe the tide is beginning to change.

Rizley appeals to us because he's a country boy who doesn't claim to know much about aviation. That should qualify him for the CAB. His other attributes include legal background, an eight-year stretch as a Congressman and some high executive posts in both the Agriculture and Post Office departments. The very nature of CAB work will dovetail in with Ross Rizley's past experience.

CAB members and Former U. S. Senators Josh Lee and Chan Gurney are also lame ducks who failed to get re-elected prior to their CAB appointments. If Rizley is confirmed by the Senate, that will give us three men on the Board with experience in Congress. With so much pressure on to re-write the much-amended Civil Aeronautics Act of 1938, three ex-members of Congress might be useful when the time comes to find out what kind of new law we should create.

All in all, Ross Rizley looks like an acceptable appointment, apparently coming in fresh without prejudices or alliances or inhibitions through previous aviation experience. The time has come for the CAB to face up to some highly controversial issues crying for decisive action. Maybe we can get such action as a result of new blood in the person of Ross Rizley.

WISE DECISION

THREE rousing cheers for the recent Civil Aeronautics Board ruling which permits local service airlines to exchange transportation for advertising!

There's no denying the fact that advertising has been a major factor in building up traffic for our domestic trunk airlines — last year they carried more people than the railroads. It's reasonable to assume that smart ad-

(Continued on page 30)

First production model of the Camair 480 is shown in this first-flight photo. Nacelles and fuselage nose have been cleaned up. Engines are 240-hp. Model O-470-B Continentals driving constant-speed Hartzell propellers. Ten units are on production line at Galveston, Texas.

—(FLIGHT MAGAZINE Photos by W. D. Murdy.)

Production For Camair 480

By GEORGE E. HADDAWAY

WE cranked up the 170 last month and paddled down to Galveston to take our first gander at the production model of the Camair 480 twin Navion conversion.

It's quite an airplane.

While accurately calibrated test flights are yet to be had, we predict it's going to be in the 180 to 190 mile-an-hour cruising class at 8,000 feet pulling 75% power. This prediction, which could be either an overstatement or an understatement, is based on 15 hours of cross-country time in the orginal prototype and a study of the refinements incorporated in the production model now undergoing final ATC tests at the Camair factory—plus results of a test flight Camair pilot Bill Todd made during which he indicated 175 mph. with gear down, flaps up at 2,000-ft. altitude, outside air temperature of 49 degrees, pulling 23 inches of mercury at 2,300 rpm. This trues out at 185 mph. Of course the ship was light with only one passenger, 50 gallons of gas and no baggage. Even so that's really scatting.

The two Continental O-470-B six-cylinder engines produce their rated 240 hp. at 2,600 rpm. take-off power and drive Hartzell full-feathering constant-speed propellers. The 480 boasts an entirely new fuel system, quite similar to the well-known DC-3 system that allows selection of fuel

Large Camair shop at Galveston includes this section devoted to contract overhaul of Army L-19's. One-a-day overhaul is the scale of this project. Camair also has a custom shop for multi-engine corporate air transports and complete radio and instrument shops.

—(FLIGHT MAGAZINE Photos by W. D. Murdy.)

Ease of entry is provided by a special step in the Camair 480's flap and an outside baggage door facilitates luggage handling. Total fuel capacity is 109.5 gals., wing-tip tanks carrying 35 gals. each. Instrument panel (lower right) mounts radio at center above pedestal. Overhead panel carries all switches.
—(FLIGHT MAGAZINE Photos by W. D. Murdy.)

from any tank to either engine. It's a true twin-engine airplane with everything dual—the vacuum system, fuel system, and the hydraulic and electrical systems.

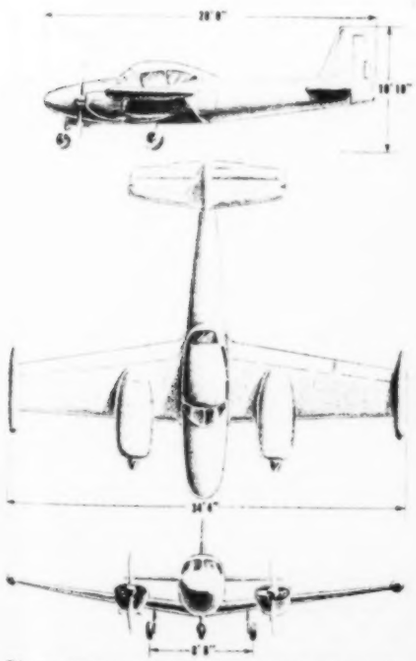
By sharp engineering and re-design work Camair has eliminated 100 pounds of weight from the basic structure; this is considerable when you figure that's 4 per cent of the gross weight. The shorter nose section is of molded fibreglass as are the front sections of the engine nacelles. This interesting work is being done by Camair in their own fibreglass shop, where we also observed a large dorsal fin fairing being moulded as we passed through. A prediction of new things to come in structures, no doubt.

Augmentor tubes also have been redesigned to give a more pleasing appearance as well as better air flow on the production model. Hydraulic tanks have been placed aft of the firewall and the use of a new material, acoustimat, has definitely improved the noise level in the cabin.

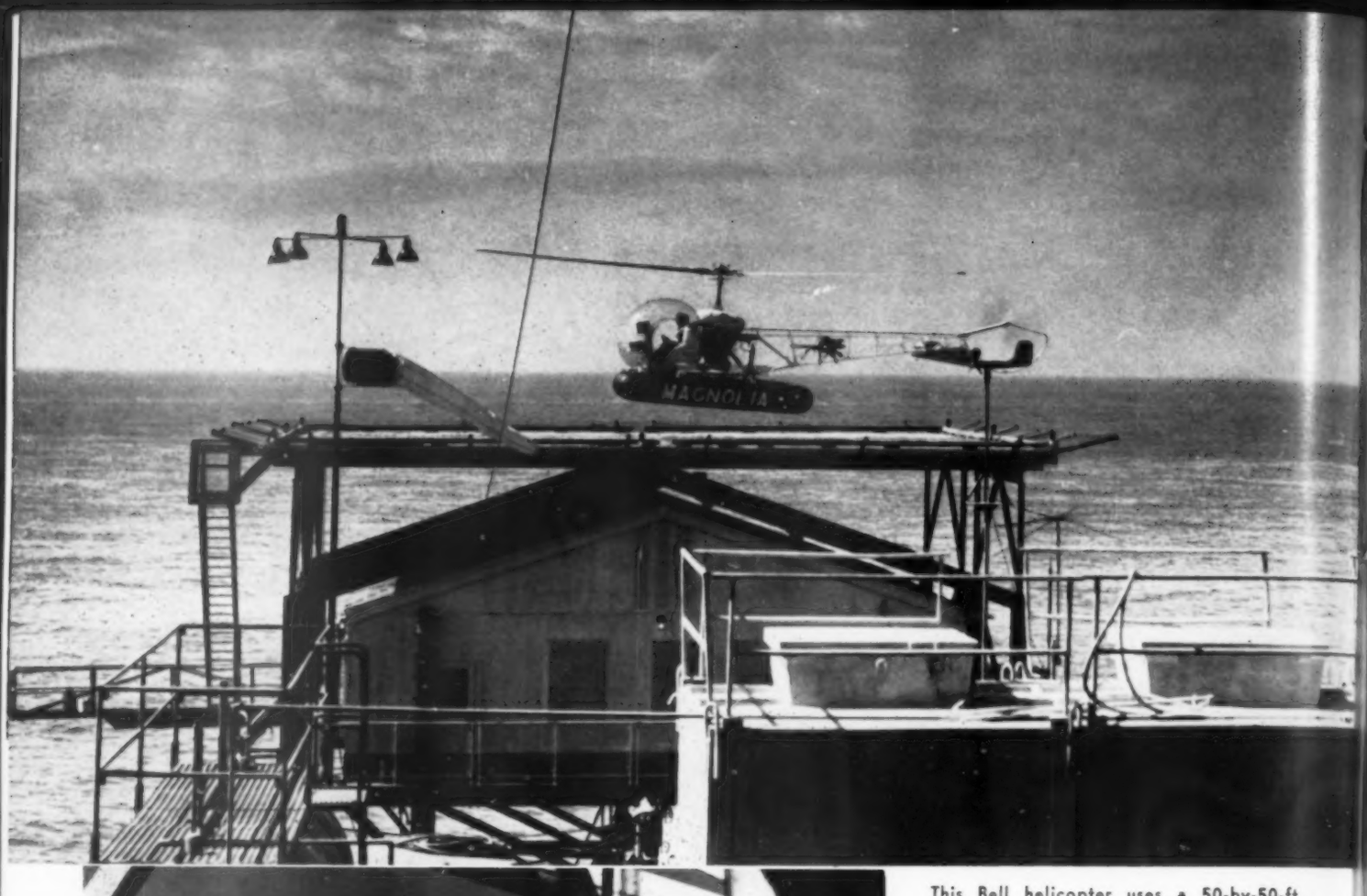
One of our complaints of the prototype was the small brakes. New and larger Goodyear brakes have been adopted with separate hydraulic supply and master cylinder.

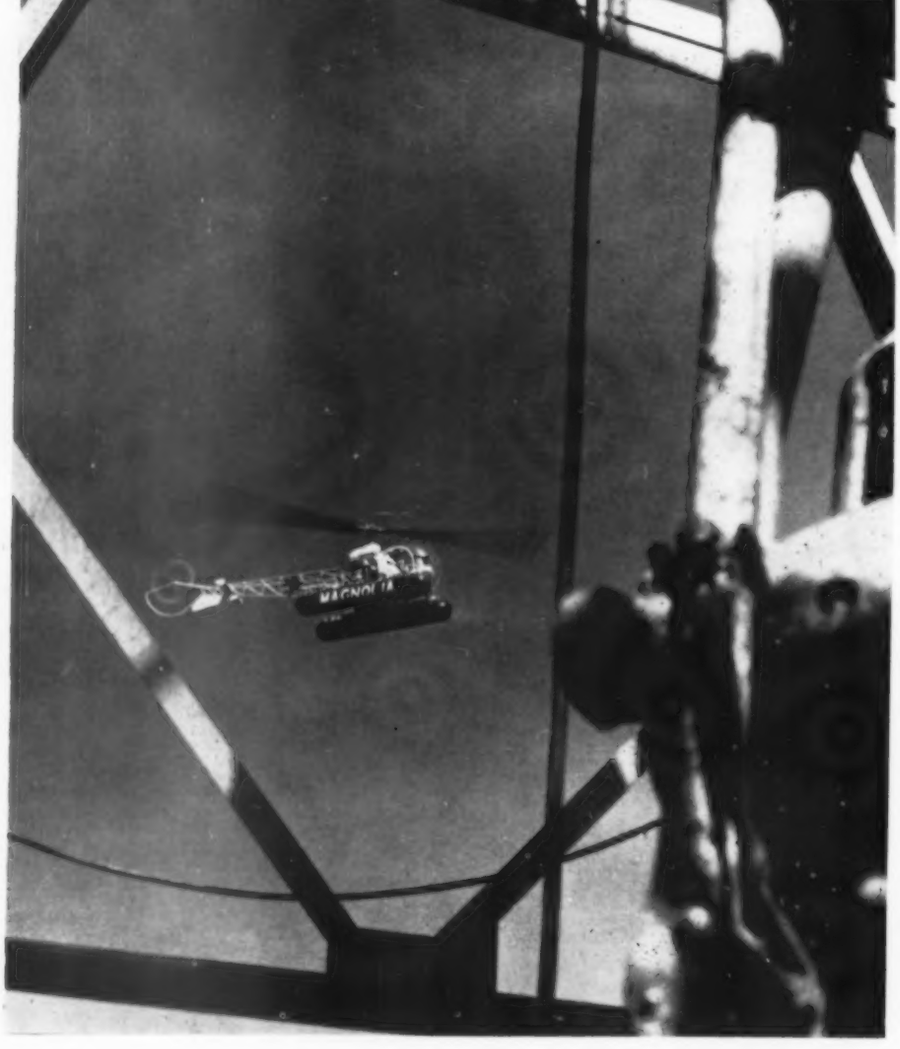
Pilots are going to like the instrument panel arrangement with all radio equipment located right in the middle above the pedestal, with flight instruments in front of the pilot and engine instruments to the right. An overhead

(Continued on page 32)



Dimensions in three-view sketch above include 28-ft. length, 10-ft. 10-in. height, 34-ft. 4-in. span and 8-ft. 8-in. tread between main wheels. Close-up at right shows fibrous glass nose sections on fuselage and nacelles and arrangement of exhaust augmentor tubes.
—(Camair Sketch.)





This Bell helicopter uses a 50-by-50-ft. platform atop crew quarters on a Magnolia platform in the Gulf of Mexico. Driller's view from the rig floor is shown below.
(FLIGHT MAGAZINE Photos.)

Off-Shore Helicopter

By TOM ASHLEY

A NEW oil field application of helicopter utilization is becoming a major business flying activity — the servicing by helicopter of drilling platforms in the Gulf of Mexico's open waters off the shores of Texas and Louisiana.

Oil companies which use charter or leased helicopters for geophysical surveys of the tideland's oil producing possibilities are now acquiring copters for use as essential equipment for the most efficient approach to drilling beneath the Gulf.

The first to equip an off-shore drilling platform with its own helicopter is Magnolia Petroleum Company. To see how the rotary-wing aircraft fits into the operation, we went to the Magnolia operation with Pilot Travis Rhodes in the company's new 3-place, 200-hp. Bell Model 47G. The heli-

Copter Pilot Travis Rhodes delivers a package to Toolpusher C. A. Thompson at sea (below). Magnolia's Bell is used chiefly for shuttling supervisory personnel.

Cart with hydraulic jack is used by Barney Akins, maintenance chief for the Magnolia helicopter, to move the float-equipped copter about the ramp. Magnolia is using the Bell in its off-shore drilling at a rate of about 700 hrs. annually.
—(FLIGHT MAGAZINE Photos.)

copter is based at Jefferson County Airport, between Beaumont and Port Arthur, Texas. The Magnolia off-shore platform is about 35 miles south of the base, 8.5 miles of this distance being open water beyond the beach. Much of the overland distance is watery marshland. Consequently, the Magnolia Bell is equipped with float gear.

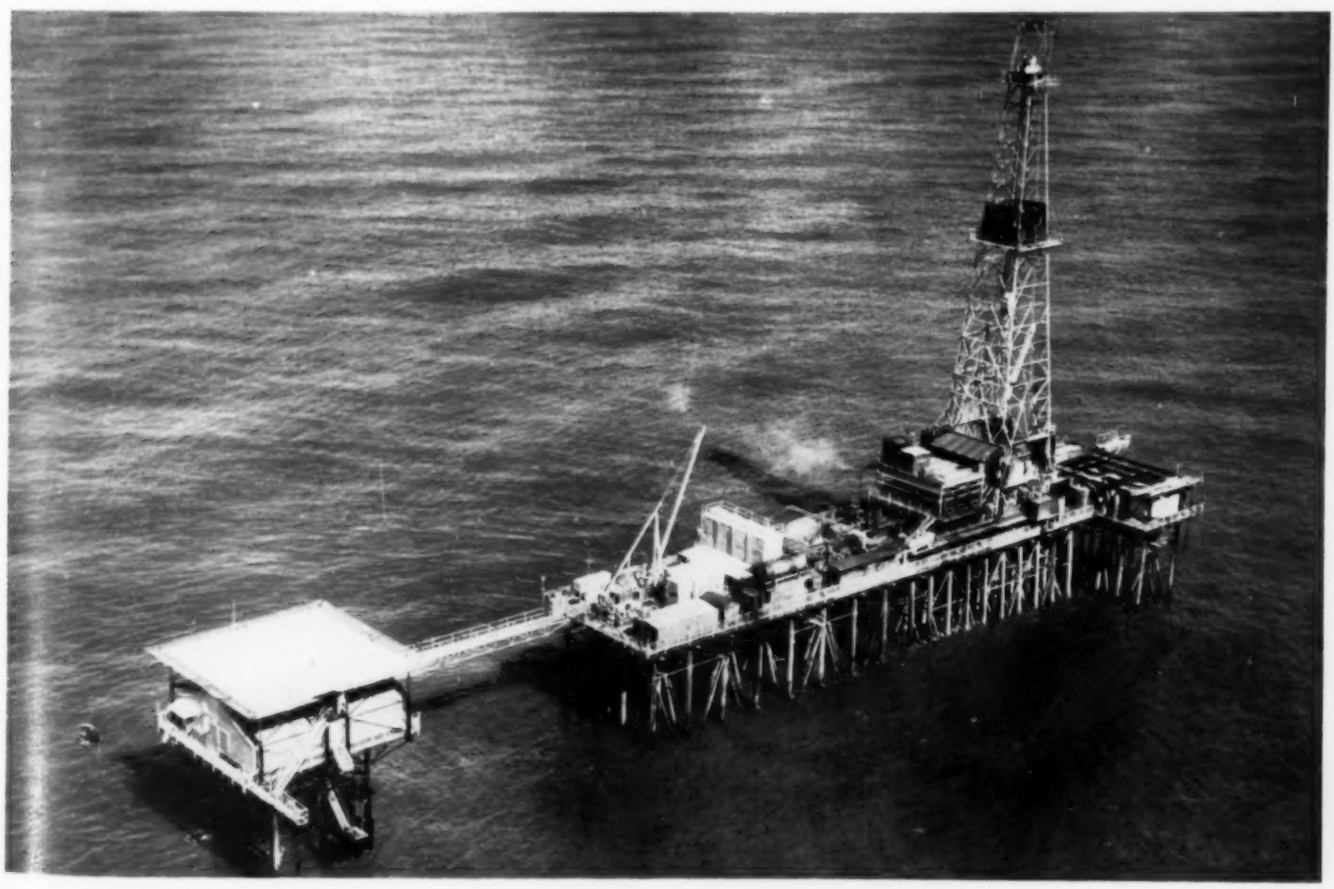
On our way out to the platform, we flew via the company's pipe yard at Sabine Pass, about 22 miles south of the airport. This yard is the supply point from which company boats service the off-shore operation. Leaving the pipe yard, we flew straight across the marshes and the beach to the platform, a 12-minute hop by helicopter at a ground speed of about 60 mph. with an 18-mph. headwind. Supply boats from the pipe yard have to steer a dog-leg course around through the winding Sabine River and the jetties — a slow, lengthy journey of some two hours and a half by surface craft.

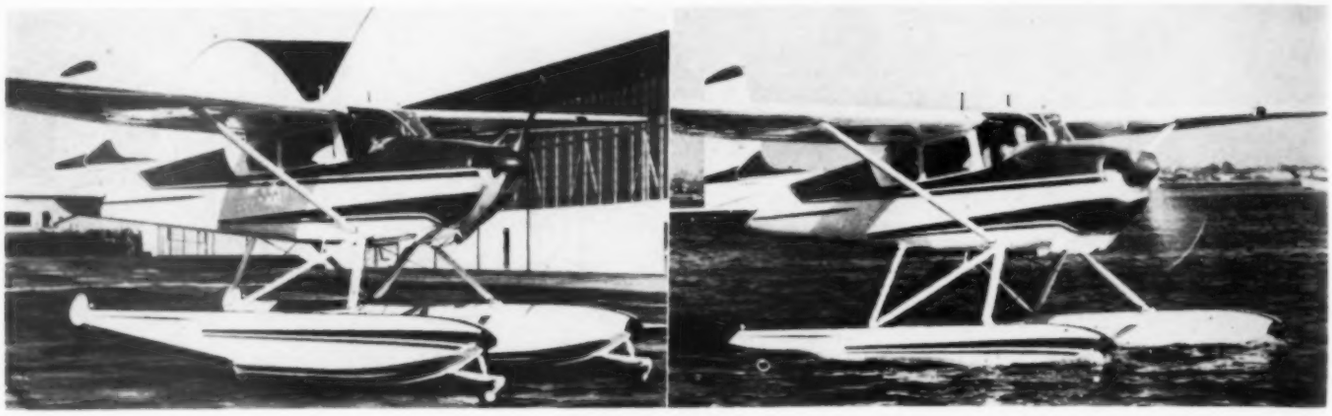
This slowness of surface travel is one of many reasons why the helicopter is a "natural" for off-shore drilling operations. Magnolia's Bell can make 5 round trips between the pipe yard and the platform while a supply boat is making but a single one-way trip.

We soon saw other reasons for helicopter superiority, for a boat was ap-

(Continued on page 34)

Helicopter pilot's view of Magnolia's off-shore platform 8.5 miles beyond the beach below Port Arthur, Texas, in the Gulf of Mexico. Heliport atop crew quarters is at left. It and drilling platform are 35 ft. above the water on steel pilings driven through 35-ft. water deep into ocean bottom.
—(FLIGHT MAGAZINE Photo.)





Retractable quadricycle wheels are shown on the Cessna 180 at left for its use on land, while the floats are used on water at right with wheels retracted. Edo is now producing the amphibious floats.

(Edo Photos.)

New Amphibious Floats

THE floatplane pilot's dream is coming true for those who fly Cessna 180's and de Havilland Beavers — new amphibious floats are going on the market for operations from either land or water without the delay or expense of switching installations from floats to wheels or vice versa.

The Edo Corporation of College Point, Long Island, N. Y., and de Havilland Aircraft of Canada at Toronto have announced the new units simultaneously. Edo's new amphibious floats are for Cessna 180's and de Havilland developed its amphibious gear for modified Edo 4580 floats used on its famous Beavers.

Both the Cessna 180 and the Beaver are favored for their excellence on floats and are widely used as work planes in the bush areas of the world, especially in Canada where their high performance and efficiency are necessary for safe and economical hauling of heavy loads in and out of small lakes and air strips.

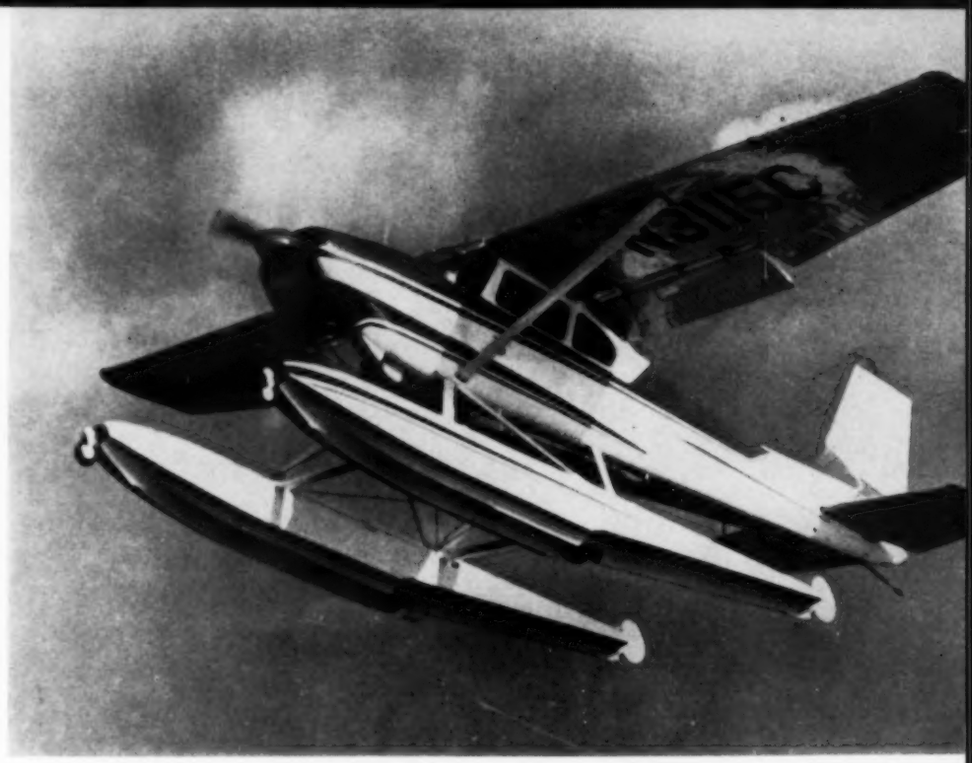
There have been amphibious Edo floats in the past, but the new versions have been made far more practical and more rugged with important weight savings. In the case of the new Edo Model 249-2870 amphibious floats for the 180, for example, ingenious engineering has held down the weight increase to only 150 lbs. Retraction and shock absorber provisions are more efficient at less than half the percentage weight increase, and the result is a small penalty for complete versatility in the Cessna's operation.

The Edo arrangement is a quadricycle gear using four wheels in the floats, two mainwheels located just aft of the step and retractable into wheel wells within the float, plus two small Scott nosewheels installed at the bows of the floats. The nosewheels are full-swiveling and retract upward, the struts for this position being flush with the keel while the wheels remain exposed just forward of and below the bow bumpers. They are out of the water when the floats are planing on the step. The mainwheels remain slightly exposed behind the step but this location is a "dead" spot hydrodynamically and no well doors are necessary.

Retraction is by an electro-mechanical actuating system housed in each float. A small position control and indicating system on the instrument

Here's how the de Havilland Beaver looks in flight with its amphibious floats. Nosewheels are rotated up and over the bows while mainwheels retract inside the floats behind the steps.

(de Havilland Photo.)



Retracted positions of wheels on the Cessna-Edo amphibious floats are shown with the nosewheel struts inside the bows and the mainwheels pulled up behind the steps. Nosewheels remain exposed but are out of the water when the floats plane on the step.
—(Edo Photo.)

panel fits the standard instrument cutout. To prevent the classic amphibian error of landing with gear down in the water, a warning light indicates gear position either locked up or locked down.

Edo reports no indication of serious limitation was found in a painstakingly thorough pre-production and CAA certification test evaluation involving hundreds of water and land take-offs and landings under varying conditions. These included landplane operations in surface winds of 25-30 mph. with gusts to 45 without undue difficulty and no apparent danger of upsetting cross-wind. Landings were made into "unbelievably small fields with take-off performance consistent with a 180 landplane operating at the equivalent gross weight," Edo's president, N. B. McLean, reported.

Long-stroke Electrol shock absorbers are attached to each of the four wheels and wheel landings are "featherbed soft." In taxiing, the quadricycle handles the same as any aircraft with non-steerable nosewheel. Excellent braking, even immediately after exposure to water operation, is reported for Goodyear pad brakes fitted to the main wheels.

The Edo amphibious floats are licensable on any Cessna 180, old or new. They are in production now.

A. F. (Sandy) MacDonald, de Havilland sales manager, tells us the new amphibious floats for Beavers will be ready for early summer. These make use of the standard wheels and brakes with which the Beaver is normally equipped — the wheel undercarriage consists of two mainwheels and two nosewheels attached to Edo 4580 floats.

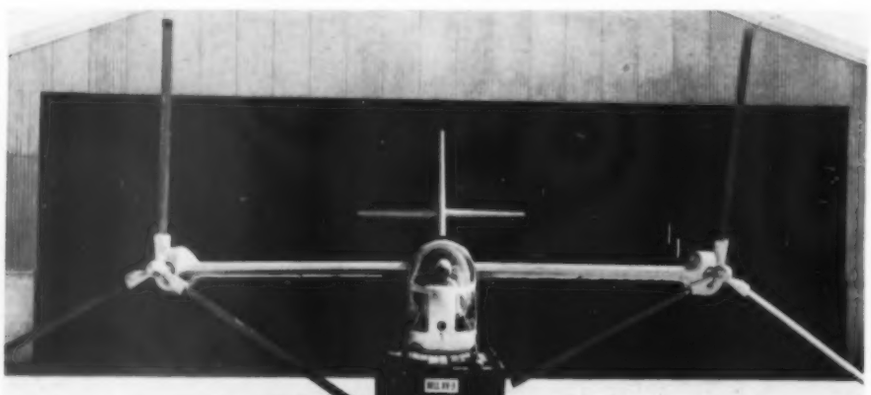
Mainwheels are suspended below the floats aft of the step on levered rubber shock absorbers and retract into the wells in the float. Nosewheel units are mounted on the front bulkhead of the floats and when not in use rotate up and over to lie on the float deck. A levered rubber shock absorbing system is also used on the nosewheels, which are free swiveling but are fitted with anti-shimmy twin-contact tires. A centering lock is provided to prevent misalignment of the nosewheels when retracted.

Retracting is accomplished by hydraulic jacks at each wheel unit, operated from a hand pump and selector control in the cockpit. All wheels are fitted with mechanical down-locks, automatically released for the retraction cycle. An indicator is fitted on the cockpit control unit to show wheel position.

"Compared with the seaplane in its usual configuration, the amphibious Beaver suffers no measurable penalty in performance," Sandy reports. "At gross weight, zero wind, the amphibian is airborne in 900 ft. The excellent water handling characteristics are not affected in any way. As a landplane, the amphibian taxis and handles easily. Take-off and landing distances are affected only slightly. Fully loaded, zero wind take-off is accomplished in only 700 ft. ★ ★ ★

To emerge from water to ramp, the Beaver pilot merely lowers his wheels with a hydraulic control. Amphibious floats are expected to expand the usefulness of Cessna 180's and de Havilland Beavers as work planes.
—(de Havilland Photos.)

For its unveiling, the Bell XV-3 was shown on a portable display stand, elevated so its rotors could be positioned as propellers for forward flight as pictured above. Span of stub wing is only 30 ft. with rotor diameter being about 13 ft. Note skid landing gear.



Head-on view shows cleanness of airplane design used in the XV-3. Its 450-hp. Pratt & Whitney engine is expected to provide a 175-mph. cruising speed. Power is shafted to blades.

With rotors in helicopter configuration, Bell XV-3 is ready for take-off or landing. Helicopter controls are used in this phase of flight, while ailerons, rudder and elevator are used when operating the XV-3 as an airplane in forward flight. Fuselage is 30 ft. long.
—(Bell Aircraft Photos.)

Bell's XV-3 Convertiplane

LAWRENCE D. Bell, who used to be an airplane mechanic for barnstormer Lincoln Beachy and built his own manufacturing company which licensed aviation's first commercial helicopter in 1946 and produced the world's first supersonic airplane design which has since been clocked at more than 1,650 mph., has a good description of his latest creation, the Army's XV-3 convertiplane: "We're in the aircraft business, not the pavement business, and the convertiplane eliminates the concrete and asphalt runway once and for all."

Larry Bell's XV-3 was unveiled for the first time last month at the Bell helicopter plant between Ft. Worth and Dallas, topping 12 years of study. As pictured on these pages, the XV-3 combines the hovering and vertical flight capabilities of the helicopter with the high cruising speed and relatively long-range performance of the fixed-wing airplane. It has a skid landing gear, needing no wheels or runways, for vertical take-off and landing. Once in the air, its twin 3-bladed rotors are tilted 90 degrees forward to convert to propellers for forward flight while lift from them is transferred to the craft's stub wing. The conversion is reversed for landing.

No Speed Limitation

All of the obvious complications involved are justified by the convertiplane's big advantage over the helicopter — high forward speed — and its big advantage over the conventional airplane — vertical take-off and landing. Helicopters are inherently limited to slow speeds by rotor aerodynamics. This limitation is eliminated by converting the rotors to propeller blades and allowing the more efficient wing to assume the lift in forward flight.

A 4-place airplane, the XV-3 is powered by a 450-hp. Pratt & Whitney engine and its cruising speed is expected to approximate 175 mph. Much whirl-stand work, component testing and other ground work must be accomplished before flight tests prove how practical the XV-3 or a

Planform of the XV-3 is emphasized in this view, which shows engine installation behind cabin in the fuselage. Months of tie-down tests will precede first flight.

successor will be, but Bell engineers are confident in their performance estimates.

How It Flies

They say, for example, that the tilting conversion of the rotors from helicopter to airplane flight will require but 10 or 15 seconds once a "basic" speed is reached in helicopter flight. No details are furnished, but basic speed apparently is related to stalling speed on the order of about 90 mph. After conversion, rotor speed is reduced and blade pitch is adjusted as with controllable-pitch propellers for efficient thrust, the pilot using a transmission gear shift similar to an automobile overdrive.

"There is no abrupt change in altitude or flight characteristics during conversion and the pilot retains full control at all times," Bell experts explained, adding: "Not only is there no loss of altitude associated with conversion, but the operation can be made while the craft is maintaining a steady climb."

In case of engine failure during the airplane operation, power-off conversion back to helicopter configuration can be made and then the craft makes a helicopter autorotation landing. Bell says the pilot can "safely stop or reverse the conversion operation at any point, with steady, stable flight with rotors in any intermediate position."

Major elements of the convertiplane are utilized in both helicopter and airplane flight, with a few exceptions, and proven design elements have been used throughout in order to minimize development difficulties otherwise expected. In helicopter flight, helicopter controls are used. In airplane flight, control surfaces such as ailerons, rudder and elevator are used. The convertiplane thus has two flight control systems as a necessary complication.

Only specific data released on the XV-3 are its over-all dimensions. These are 30-ft. length, 13-ft. height and 30-ft. span for the stub wing. The rotor blade diameter is thus considerably less than 15 ft., appearing to be about 13 ft. for sufficient fuselage clearance in propeller position. No weights were specified.

The XV-3's Pratt & Whitney piston engine is installed in the fuselage aft of the cabin. Its transmission drives two shafts in the wings to the rotors. Shafting of power from one engine to two rotors is not new to Bell, being used on Bell's large Navy HSL anti-submarine helicopter, which is powered by a single Pratt & Whitney R-2800 down-rated to about 1,900 hp.

Test Pilot Floyd Carlson, known to friends as "the original yo-yo" for teaching himself to fly the first Bell helicopter 12 years ago by taking off and hovering at the end of a tethered cable, will probably be the first to fly the XV-3. No target date has been set.

Thirty-three-year-old Robert L. Lichten is chief project engineer for the XV-3 and was engaged in tilting-rotor design work before joining Bell in 1947. Lichten sees the convertiplane as supplementing rather than replacing conventional airplane and helicopter designs and considers it as the answer to the needs of the local service airlines for short-haul passenger service between city centers. Tip-mounted shaft turbines would power a transport version of the convertiplane.

Primary purpose of the XV-3, however, is a military exploration of the tilting-rotor idea for tactical uses as an observation-reconnaissance, evacuation and liaison and air rescue aircraft.

★ ★ ★

Close-up with pilot at controls shows relative size of the XV-3, a 4-place design. Windows are placed for maximum visibility in Army observation-liaison usage.

SIX windows plus an exceptionally wide windshield provide unexcelled built-in visibility and extra travel enjoyment.

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Owners report that there are *101 Reasons* for the Beechcraft Bonanza Superiority. The four thousand time-tested and service-proved Beechcraft Bonanzas *now at work* for business and industry in all of the 48 states and some 50 foreign countries are proof of the Bonanza's design, structural, and high-performance operating efficiency. Here are a few of the NEW Bonanza features for 1955:

A NEW Additional Window on each side provides even greater visibility, greater safety, and greater comfort.

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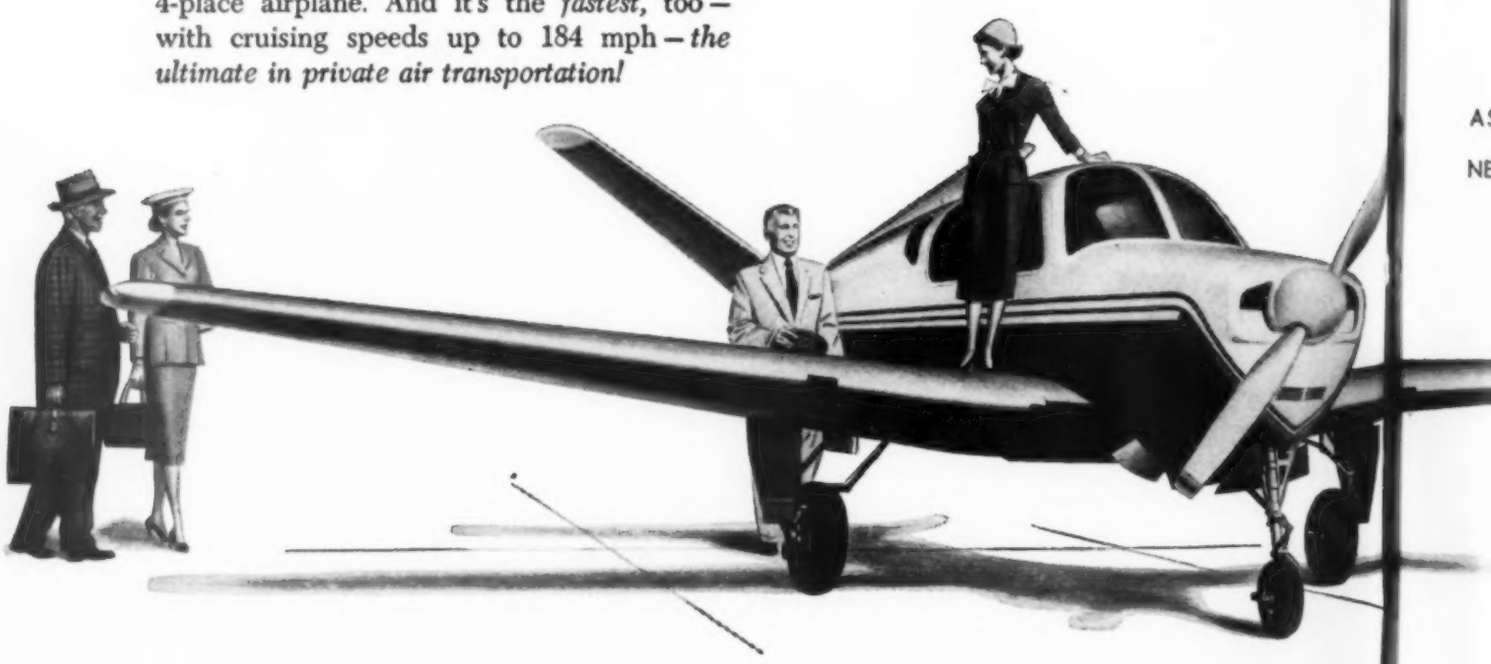
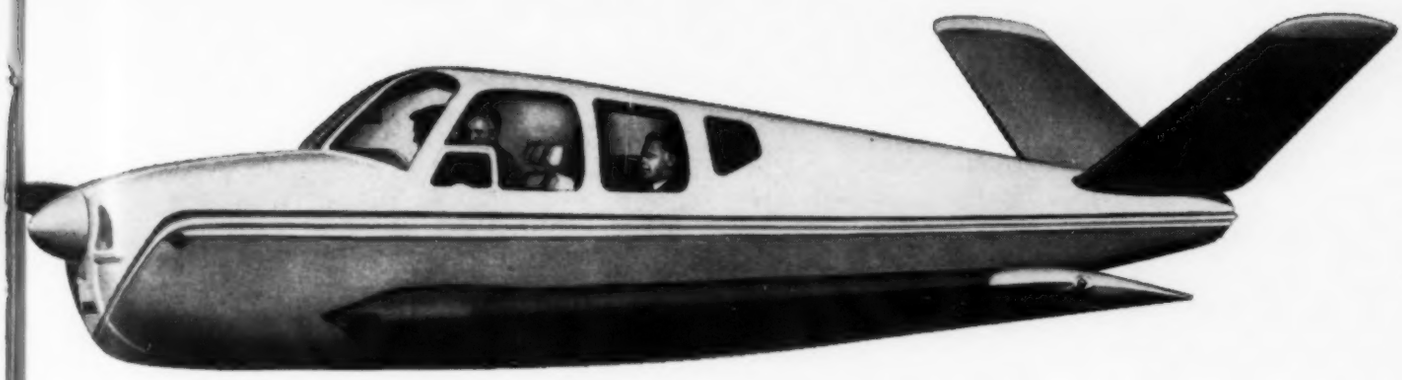
ADDITIONAL Leg-Room for front-seat passengers now available through a special F35 installation.

COMPLETE Exterior Painting is an exclusive standard feature of the Bonanza. The new F35 designs are offered in a wide array of attractive, durable, and easy-to-see colors.

NEW Interior Styling for the 1955 F35 Bonanza provides the ultimate in design, quality of materials and workmanship. Beechcraft's exclusive safety harness furnished standard in harmonizing colors.

NEW Posture-Ease, Adjustable Seats for the Bonanza provide *the tops* in comfort for all passengers.





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Topeka—Topeka Aircraft Sales & Service
Tulsa—Tulsair Distributors, Inc.
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ALAMO AVIATION, INC.
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San Antonio, Texas

ANDERSON AIR ACTIVITIES
General Mitchell Field, Milwaukee, Wisc.
Truax Field, Madison, Wisc.

ATLANTIC AVIATON CORP.
Teterboro Airport, (25 minutes from Times Square)
Teterboro, New Jersey
Logan Airport, East Boston, Mass.

ATLANTIC AVIATION SERVICE
New Castle County Airport, Wilmington, Delaware

BUTLER CO., AVIATION DIVISION
Municipal Airport, Chicago, Ill.

CURREY SANDERS AIRCRAFT CO., INC.
Downtown Municipal Airport, Shreveport, La.

CUTTER-CARR FLYING SERVICE, INC.
West Mesa Airport, Albuquerque, New Mexico

GRAY AIRCRAFT SVC. CO., INC.
D. A. Cody, Service Mgr.
Love Field, Dallas, Texas

ELLIOTT FLYING SERVICE
Municipal Airport, Davenport, Iowa

ROD MORE AVIATION SERVICES
Cuddihy Field, P. O. Box 556,
Corpus Christi, Texas

ROSCOE TURNER AERONAUTICAL CORP.
Municipal Airport, Indianapolis, Ind.

J. D. REED CO., INC.
Municipal Airport, Houston, Texas

TOPEKA AIRCRAFT SALES & SERVICE
Municipal Airport, Topeka, Kansas

TRADEWIND AIRPORT CORP.
Tradewind Airport, Amarillo, Texas

TULSAIR DISTRIBUTORS, INC.
Hangar 8, Municipal Airport, Tulsa, Oklahoma

WINGS, INCORPORATED
Wings Field, Ambler, Pennsylvania
Philadelphia International Airport, Philadelphia, Pa.

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NAVY'S XFY-1 TAKES OFF AND LANDS ON A DIME

Here's a new kind of aircraft for America's aviation arsenal...the Convair XFY-1, a vertical takeoff, delta wing Navy fighter. Powered by a turbojet engine, it is one of the world's fastest propeller driven planes.

The XFY-1 is as responsive as a hummingbird over a rose bud. It rises nose-up like a guided missile ...flies like a fighter at speeds beyond 500 mph...hovers motionless...darts forward, and sideways...backs down on its tail to a feather-light landing.

This remarkable aeronautical achievement is another result of Convair's engineering for the *maximum* degree of performance... the Nth degree of air power...

Engineering to the Nth power

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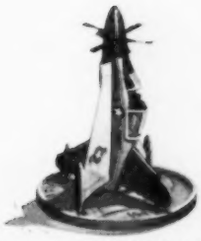


ANY SHIP BECOMES AN AUXILIARY AIRCRAFT CARRIER WITH THE XFY-1 ON DECK!

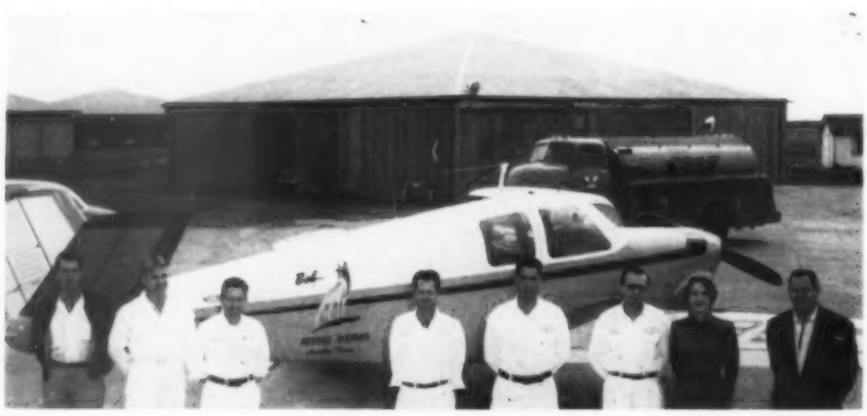
ANY FIELD, EVEN A BACKYARD, IS AN AIRBASE FOR THE XFY-1!

ANY PLACE WHERE FIGHTER-BOMBERS ARE NEEDED, THE XFY-1 CAN OPERATE!

Andrau Air Park, 15 miles west of downtown Houston, Texas, has 3,450-ft. and 2,000-ft. hard-surfaced runways, a low-frequency homing beacon, lights and beacon, VHF unicom, hangars and tie-down, coffee shop, transportation to hotels and is open 24 hrs. daily. It bases 73 business planes, 20 of them multi-engine aircraft.

A GOIN' JESSIE

Houston's Andrau Air Park proves that private airports can be profitable



Bob Wolfe (right) and part of his staff are shown at Andrau Air Park near Houston. Below is a Cessna 170 floatplane which last month landed at Andrau, using an irrigation ditch alongside the ramp. The Cessna belongs to the Aquaness Corp., Houma, Louisiana, and is flown by Leroy Houck, shown (in hat) being welcomed by Wolfe. His take-off is pictured at right.

THERE are few aviation developments more appealing to the average plane owner than to find here and there, over the broad expanse of U. S. terrain, successful privately-owned and privately-managed airports catering to the business flier. This is especially true in or near metropolitan centers where traffic congestion on and over large terminal airports is beginning to be a real pain in the neck to the itinerant pilot, who considers his business missions just as important as those of the people riding the airlines.

Andrau Air Park, 15 miles due west of downtown Houston and on the outskirts of Alief, Texas, typifies the "goin'-jessie" brand of privately-owned airport which is prospering from the simple business formula of superior service at a good location. And Andrau's manager, Bob Wolfe, typifies the new school of private airport entrepreneurs who are willing to put capital investment where their faith is — faith in the constant, steady

(Continued on page 30)

Spaciousness is as real as it looks in these cabin interior views of a modernized Beech D18S. Card tables, refreshment bar and inside trim strips are of limed oak. Note relocated rear bulkhead, new light units, use of leather and window area, including door window (below).
—(Gray Aircraft Service Photos.)

Custom Beech Interior

FLEXIBILITY of cabin arrangements is one of the design advantages which have made the Beech D18S a world leader in business transports, with continuing developments in equipment, accessories and craftsmanship now making it a better airplane than ever.

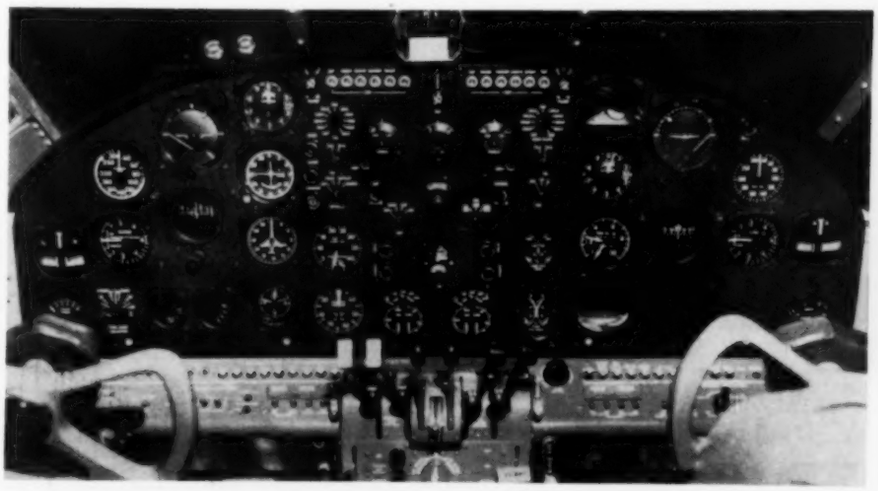
We recently watched a D18S belonging to the Virginia Coal & Iron Co., of which Charles S. Sowa is the pilot, going through the custom shops of Gray Aircraft Service Company at Dallas and the transformation performed on it was something new in Beech Twins. Miniature though the D18 is as a transport, D. A. Cody and his crew at Gray's made the interior roomier as well as looking roomier and the additional comfort they provided will make it a more useful airplane than it ever was, for spaciousness and comfort definitely add to airplane utility.

The principal "stretch" job was the addition of three feet of unobstructed length to the cabin interior. This was accomplished by moving the rear bulkhead 36 inches farther back. To make it look even more spacious, Cody installed new windows in the door, opposite it, and behind the door. The effect of this not only adds to the exterior appearance of length but floods the cabin with much more light from the outside. To take advantage of this, interior colors used are light variations of green.

Limed oak card tables, refreshment bar and trim top off the furnishings. The card tables are located between two pairs of facing chairs (a fifth chair is quickly installed or removed as needed). The tables fold into place with the chairs occupied, there being no need to move while making them ready. Behind the seating area, the oak refreshment bar measures 36 by 30 by 8 inches with generous storage for all supplies, an ice chest and a top which folds to become a work area. The ice chest has outside drainage. Beyond this at the rear of the cabin is an upholstered commode with a curtain from the headliner for privacy.

Leather in vertically-ribbed panels is used to face cabin walls from the floor to just beneath the windows, trimmed with a limed oak strip at the top. This limed oak is a "natural" to emphasize lightness throughout the cabin color scheme.

Plenty of lighting at night is provided by new-type plastic units, with those over each chair also containing air vents. Extra soundproofing is used throughout for cabin quietness.—T.A.



Modernized cockpit in Virginia Coal & Iron Beech has custom panel with radio controls centered, bottom panel for switches and circuit breakers, and pedestal refinements.
—(Gray Aircraft Service Photo.)

Always Ready To Go

Hundreds of Cessna owners all over the country depend on the Authorized Cessna Service Stations listed below for their transportation needs—Authorized Cessna Service is their assurance that business planes are always ready to go, always in top condition for reliability, performance and comfort.

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To make the most of your Cessna's usefulness, visit the Authorized Cessna Service Stations listed below.

These progressive Cessna Authorized Service Shops offer flat-rate service.

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Denver, Colorado

Cruse Aviation, Inc.
Municipal Airport
Houston, Texas

Dal-Tex Aviation, Inc.
Highland Park Airport and Love Field
Dallas, Texas

Hair Flying Service
Harding Field
Baton Rouge, Louisiana

Howard Aero Service, Inc.
San Antonio International Airport
San Antonio, Texas

Ragsdale Flying Service
Municipal Airport
Austin, Texas

Southwestern Skyways, Inc.
New Municipal Airport
Santa Fe, New Mexico

Kenneth Starnes Aviation Service
Adams Field; Little Rock, Arkansas

Yingling Aircraft, Inc.
Municipal Airport
Wichita, Kansas

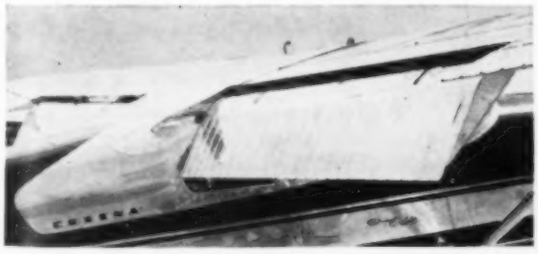
New beauty...New safety...New cabin quietness!

Outstanding among the many new features of the 1955 Cessna 180 is a new "hushed" cabin . . . engineered to give you almost unbelievable quietness in flight.

Over-150-mph speed—outstanding luxury, stability, ease of handling—you get all that in the Cessna 180 . . . and now a great new advantage has been added! Cabin quietness so complete you have to experience it to believe it—made possible by an improved engine that delivers the same horsepower at fewer RPM's—relocated ventilator intakes—and a new ¼-inch thick windshield. Yet you get all this at the same low price of $12,950 f.o.b. Wichita. Ask your Cessna dealer to demonstrate or write CESSNA AIRCRAFT CO., Dept. FM-3, Wichita, Kansas.

Cessna

Short Fields Solved!



Long, wide "Para-Lift" flaps give your Cessna 180 easy access to the smallest landing areas, lowers the airplane at the speed of a descending parachute or sweeps you off of short runways in seconds! Easily operated through 3 positive positions by a seat-side control. A safety "must" for high-altitude, short-field flying!

Simplest Landing Gear —Safer Still!

No complicated parts! Nothing to service. Always down and locked! And now the spring steel landing gear on the Cessna 180 has been moved 3 inches forward to make landings safer and easier than ever!

Room with a View!

Inside the "hushed" cabin you get your choice of fabric color combinations—soft, adjustable foam rubber seats—all-weather heating-ventilating system 6 vents and defroster. Luxury of the finest automobiles but *3 times the speed!* Behind the rear seat —120 lbs. of luggage—and you can reach it in flight!

CESSNA 170 180 195 310 THE COMPLETE AIR FLEET FOR EVERY BUSINESS NEED!

3,071 Lightplanes Shipped in 1954

U. S. lightplane manufacturers delivered 3,071 business planes in 1954, which were 717 airplanes fewer than were delivered in 1953, but their billings were $9,000,000 higher at $43,461,000 for 1954 as compared to $34,458 for 1953, according to year-end totals just reported by Joe Geuting, manager of the Aircraft Industries Association's Utility Airplane Council. The figures follow:

Manufacturer and Model	1954 No. Units	1954 Billings	1953 No. Units	1953 Billings
Aero Design				
Aero Commander 520	30		69	
Aero Commander 560	37		0	
	67	$ 4,517,000	69	$ 4,260,000
Beech				
Bonanza	302		312	
Twin D18S	26		60	
Twin E18S	31		0	
Twin-Bonanza	115		3	
Model 45	105		0	
	579	$20,056,000	375	$ 9,545,000
Call Air	4	$ 20,000	2	$ 7,000
Cessna				
140A	0		2	
170B	495		663	
180	646		644	
195	44		123	
305	1		2	
310	14		0	
	1,200	$10,666,000	1,434	$12,094,000
Mooney M-18	14	$ 31,000	37	$ 91,000
Piper				
Super Cub	398		700	
Pacer, Tri Pacer	692		1,139	
Apache	101		0	
	1,191	$ 8,070,000	1,839	$ 8,286,000
Taylorcraft				
Tourist 15A	15		27	
Sportsman 19	1		5	
	16	$ 101,000	32	$ 175,000
Totals	3,071	$43,461,000	3,788	$34,458,000

Two Books on Colorful Aviation History

EVERY old time aviator, especially in the southwestern part of the country, will remember the one and only Slats Rodgers, who was as wild a lawbreaker and barnstormer as ever flew the blue. To us, Slats always epitomized those rare aviation characters, like Booger Red Vencill and Pancho Barnes, who defied description. People just wouldn't believe what you wrote about them so why write. That was our personal attitude.

It took one of Texas' best story tellers, Hart Stillwell, to do the job on Slats. The book came out recently and from Slats' correspondence with us, we gather it will be a hot seller. Entitled "Old Soggy Number 1," named after the first airplane Slats built back in 1912 when he was firing on the Santa Fe Railroad, the book is definitely worthy of all airmen to be received even at four bucks a copy.

"Old Soggy Number 1" is considerably more than just another chronicle of an old barnstormer's life. It documents a wild and woolly era of aviation history — the rough-and-tumble days when it wasn't fun unless it was illegal — that has long needed recounting in print. While some of Slats' escapades are a little hard to digest we're better off for having the story told and many an airman will laugh, thrill and live again over the old boy's exploits in flying anything, anytime, as long as he got paid for it — whiskey, Chinamen, bank robbers, suitors — anything except dope. His run-ins with the law and the CAA have long been a legend in southwestern aviation lore. Now that the statute of limitations clears him legally, he really tells all.

Slats has retired to Zapata, Texas, near the Rio Grande, where he operates a fishing camp on Falcon Lake. His boots and goggles are hung on the wall, his flying days done.

CANADA'S flying heritage is as colorful and impressive as our own but the story remained untold until the University of Toronto Press, Toronto, Canada, published a monumental history by that title last month with the financial help of Imperial Oil Company, Ltd.

It's the work of pioneer Canadian airman, Frank H. Ellis, who unfortunately was killed before the volume came off the press.

"Canada's Flying Heritage" should enjoy a good sale in the United States not only within the ranks of everyone interested in authoritative aviation history, but also by many more who seek plain good reading and documentary pictures with which the new volume is generously supplied.

If you can't get this fine volume from your bookstore, the University of Toronto Press can supply it at $7.50 per copy. It's worth every cent.—G. H.

JUST AMONG OURSELVES

(Continued from page 13)

vertising can help boost ticket sales on the local service airlines as well. Trouble is the harried locals never have been able to allocate much money for sales promotion and advertising because of their peculiar operating restrictions — high hurdles the domestic trunks didn't have during their formative years.

While the $25,000 limit per annum per carrier is no cure-all for low load factors, the new ruling is a step in the right direction. It also reveals a willingness on the part of the CAB to change the rules around from time to time in order to help the locals use every means to develop more traffic. ★ ★ ★

A 'GOIN' JESSIE

(Continued from page 26)

growth of business flying and business flying's dependence on services tailored primarily to its needs rather than to those of transport companies, the military or to the convenient whims of city hall airport management on municipal fields.

Houston's Andrau Air Park started out in 1947 as a private strip on a valuable piece of plantation property owned by the late Dr. E. W. K. Andrau, an early Navion owner. It wasn't long before a couple of neighbors asked for and received permission to base their airplanes on Andrau's private port. By 1949 people were coming out from Houston and a local CAP squadron got started, all of which produced a bee hive of flying activity and called for constant improvements in runways, in hangars and in other utilitarian buildings. There were no "Keep Off" signs around.

The field has now grown to 550 acres of usable real estate with a north-south runway of 3,450 feet and an east-west runway of 2,000 feet, both hard surfaced with iron ore gravel. These soon will be extended to 5,000 feet and 3,000 feet respectively, and hard surfaced with asphalt. The runways are lighted and the field boasts a rotating beacon and a low-frequency homing beacon, AAP on 269 kilocycles. Andrau Air Park guards Unicom frequency, offers coffee shop service during daylight hours and maintains field service on a 24-hour basis. Of the 73 airplanes based on the field, 20 are twin-engined executive transports. This large population of late model craft has necessitated a complete maintenance shop,

radio shop and substantial parts room.

Wolfe is especially proud of his 15 unique metal hangars, each of which is capable of housing four large twin-engine airplanes. These especially designed hangars have 6-foot bell bottom concrete foundations on each corner with a center pole set in the same kind of foundation. Plane owners drive out to the field, attendants roll out the airplane, drive the car into the hangar and close the individual hangar door, eliminating the need for shoving airplanes around as is the general practice in conventional multi-plane hangars. The Andrau design costs $15,000 including concrete floor. They have withstood winds of hurricane force clocked at 90 to 100 mph.

Typical of the blue chip companies now basing at the field are Gulf Oil (whose aviation products Wolfe dispenses), the Baroid Company, Fish Engineering, Union Sulphur, Champion Paper and Fiber Company, Tidelands Exploration, Hudson Engineering, Texas Gulf Producing Company and Commercial Petroleum, just to name a few. Present expansion plans call for facilities to hangar 30 more executive planes. Early installation of TVOR is a possibility provided a campaign started by some of the owners for everyone to chip in on the $10,000 nut required turns out to be successful.

If growth and patronage during the next few years are as considerable as have been since 1950, Wolfe anticipates the day when a control tower and instrument landing system may be required. "There's no reason why such equipment should be the monopoly of municipally owned terminal airports," Wolfe asserts. "Besides, we probably can operate such services under private initiative at far less expense than those being operated by tax money."

The phenomenal population increase and industrialization progress along the entire Gulf Coast area, particularly around Houston, certainly justify Bob Wolfe's vision. Houston Municipal Airport has just about priced itself out of reach, due to city hall policies regarding business flying operators. So it is up to private enterprise to fill in.

Driving into Houston that night in the airport's station wagon, we mulled over Wolfe's progressive and provocative ideas on private airport operations — ideas and theories that run counter to most everything you hear on the subject these days. It was mighty reassuring to learn that all successful airports don't necessarily have to be municipal! — G. E. H.

1953 Hours!

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And no appreciable cylinder wear

Figure the dollar value of this type of performance - - ADD the savings from a 50% increase in ring life and a 30% reduction in lube oil consumption . . . . . THEN you'll know why economy minded operators of business aircraft specify channel type PORUS-KROME

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CAMAIR 480

(Continued from page 15)

panel takes care of all ignition and fuel system switches. Pop-out circuit breakers are used throughout.

Standard equipment includes Lear VHF and Omni, primary group and a 20,000-BTU South Wind heater. The Fletcher-made 35-gallon wing-tip tanks, when added to the regular basic Navion capacity of 39.5 gallons, provide an easy 900-mile range. The commodious baggage compartment (with outside door) will permit installation of auxiliary tanks if desired.

During the few weeks prior to approved type certification the Company has accepted several orders and now plans the production of 100 units during the first year with an anticipated production rate of two per week by September.

While Camair is a rank newcomer into the airplane fabrication field let there be no doubt about their intentions to become a major aviation enterprise. In addition to a large IRAN contract on Army Cessna L-19's under which they are turning out one a day and will continue to through next October, Camair has completed an executive Martin B-26 with everything on it including the kitchen sink, and a specially engineered Cessna 195 with the Lycoming 300-hp. engine. In recent months they have added a complete radio and instrument shop and enlarged their engineering department.

Antenna installations on the Camair 480 are explained by Works Manager Bill Schmidt (second from right) to Lear radiomen. New glass fiber nose section covers sensing antenna.
—(FLIGHT MAGAZINE Photo by W. D. Murdy.)

A colorful Marine Aviation combat pilot has been named sales manager for Camair. He is Brigadier General Gregory J. Weissenberger, who once shot down 3 Jap Zeros in a single minute. General Weissenberger recently retired from the Marine Corps after more than 20 years of service which began with his enlistment in 1934. He completed Pensacola flight training in 1941 and became executive officer of Marine Fighter Squadron 213 in Hawaii in December, 1942. He was promoted

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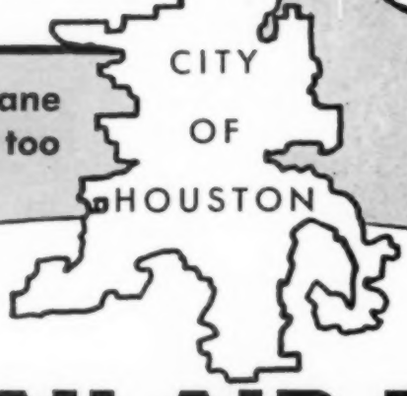

San Jacinto Monument
Biggest Shaft in Texas

ANDRAU RADIO
269 AAP

ANDRAU AIR PARK

at Alief, Texas — 15 Miles Due West of Downtown Houston

TRANSPORTATION ALWAYS AVAILABLE

Bob

Welcomes You

FIRST RACE
Win: The McCreery's — Place: McAllen — Show: Boy 7½ lbs. Congratulations!

Stop in and See us on Your Next Trip

- Hangar and tie-down space available
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- Unicom
- Coffee Shop
- 22 miles on 283-degree track from Houston LF range
- Low frequency homing beacon 269 Ky AAP
- Runways: hard surfaced, lighted, and rotating beacon, 3450 feet
- 24 hour operation

to the rank of brigadier general upon retirement for having been specially commended in combat, for which he holds the Distinguished Flying Cross with gold stars in lieu of second and third awards, the Air Medal with one silver and two gold stars, the Purple Heart and Distinguished Marksman Medal, and other medals and decorations.

While commanding Marine Fighter Squadron 213 in the Solomon Islands in 1943, he earned his first DFC for heroism while leading a 7-plane flight into attack against a larger enemy flight, personally downing 3 Japanese planes in 60 seconds before he was shot down, parachuting into the sea and being injured when the tail of his plane struck his body. A destroyer rescued him. He became an ace by downing single planes on two occasions the following month. In July, 1953, he became head of the personnel branch of the Division of Aviation, USMC, serving in that capacity until his retirement in November, 1954. ★ ★ ★

TIP-MOUNTED FAIRCHILD J44 JET ENGINES, providing 2,000 lbs. of jet thrust augmentation, have produced "spectacular" results in tests on the new C-123B assault transport being produced by Fairchild Aircraft. Single-engine rate-of-climb was increased 300 per cent to 500 fpm.

—(Fairchild Photo.)

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New relicense, NTSO R1820-56
Dual Fuel, Dump Chutes, Tight Tanks, 800 gals.
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We'll have another

SUPER-92 DC-3

finished about mid-March

It is uncommitted at this writing.

Another Remmert-Werner **CUSTOM D18S** will be ready for demonstration about mid-March, with big picture windows, big cabin, special seats, snack bar, autopilot, Bendix radio, complete overhaul, etc. Write for a description of this small ship version of our famous Executive DC-3s.

REMMERT-WERNER, Inc.

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Specializing in BEAUTIFUL Beechcraft INTERIORS

Modern 18

FROM 100 HRS. TO THE NEXT

GRAY AIRCRAFT SERVICE at DALLAS

SAFE, DEPENDABLE SERVICE

MR. BEECHCRAFT OWNER!

You're missing a lot in your Beech Model 18 unless you make fullest use of its classic cabin versatility — you can enjoy far more utility, comfort and roominess by letting Gray Aircraft Service modernize your interior.

Larger cabin and modern seating? Mister, our customers have been enjoying them a long time. We can solve your space problems by moving your rear bulkhead way back. The room we create will surprise you — and give your airplane a big, roomy refreshment bar with cold chest and storage. Our new folding card tables never get in your way — you need not move from your seat or perform acrobatics to use them.

Make the most of your cabin's inherent versatility by letting us modernize your Model 18. D. A. Cody will personally attend to every detail.

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COMPLETE INVENTORY OF LEAR PARTS

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CERTIFIED BEECHCRAFT SALES & SERVICE

Gray Aircraft Service Co., Inc.

LOVE FIELD DALLAS

OFF-SHORE COPTER

(Continued from page 17)

proaching the platform as we landed on it. This is open ocean, with no protected anchorage, and it took the boat some 30 mins. to tie up at the base of the pilings where moderate swells were heaving the craft about the stable platform. It smashed a railing in banging against the steel pilings and one swell swayed its antenna mast into the platform to damage the VHF dipoles. While the boat crew sweated, we looked down on the bobbing dilemma from a solid heliport 56 ft. above the water — thankful that our helicopter had only to settle smoothly in for a perfect landing on dry timbers without fighting a pitching sea.

C. A. Thompson, Magnolia toolpusher and rig boss on duty during our visit, said he and his drilling crew felt the same way as we did. "It's quite a trick to transfer to and from a boat out here," Thompson said. "What you are seeing is pretty calm water — the Gulf is like a lake today. You ought to see it when it's acting up. That's when we really appreciate the helicopter, because surface travel is out of the question then." The copter hasn't missed a day when it was needed.

It was plain to us that the company helicopter makes a tour of duty on the drilling platform more acceptable to the drilling crew — helicopter availability is a definite morale booster. With it, crew members can get ashore in a hurry if they have to — without it, they might be stuck out there on a wild sea indefinitely.

"Just the other day it came in handy," said Thompson. "An emergency developed in which the child of one of my men was rushed to a hospital in Beaumont. The company sent the helicopter out here and our man was flown to town where a company car had him at the hospital by the child's bed in about an hour and a half. It would have taken at least 7 or 8 hrs. by boat with a favorable sea. My men look on the helicopter as a great thing."

What this means to Magnolia is that the company can drill its offshore wells with the best crews in the shortest time with the most efficiency — all this adds up to substantial advantages in a multi-million-dollar operation where only a few hours saved in an emergency can more than pay for a helicopter and its operation for a year.

Drilling crews are furnished with complete living quarters on the platform. Two shifts a day are worked,

each 12 hrs. Each crew spends six days on the platform followed by six days off and at home. Some off-shore drilling operations by other companies are crewed by helicopter — these are the ones which do not have stable platforms for living quarters. The use of a floating quarter boat is impractical in rough water. But so is the use of a helicopter as the only means of shuttling crews back and forth, for when the weather is too bad for contact flying — no instrument flying is done in off-shore helicopters — the expensive rig would have to be shut down for lack of personnel.

To solve these and a multitude of other problems, Magnolia's off-shore platform is atop a solid foundation of hundreds of steel pilings driven deep through thirty-five-ft. water and far below the mud. An engineering accomplishment of considerable magnitude, it is a self-contained industrial plant with heavy machinery for deep drilling operations, complete with large inventories of parts, pipe, fuel and lubricants, special mud for circulation in the hole while drilling, a water well, storage tanks for possible oil production and hundreds of tons of all the paraphernalia essential to drilling — plus a separate platform, connected by a catwalk, for living quarters and kitchen. Atop this unit is the heliport, a 50-by-50-ft. deck of timbers.

Communications are an essential for both rig and helicopter activity at the water-bound drill site. The company radio operator is also equipped with an anemometer, which measures wind velocity and indicates wind direction, and a windsock, so that the helicopter pilot can obtain information at any time. On every trip, the pilot reports his position continuously with company stations in the area — in event of a forced landing, aid would be forthcoming by marsh buggy or service boat within minutes.

Practically all supplies are boated to the platform, but the helicopter handles small items when the need arises and operates daily. For example, core samples are shuttled ashore by helicopter. These are used by company geologists in Magnolia laboratories to chart the progress of the drilling in their search for new production horizons — the well is a wildcat probing an area which has never been drilled.

The helicopter is mainly used for the transportation of supervisory personnel. Top executives of the company have shuttled out and back in the Bell and are its most enthusiastic boosters. But hundreds of men in all levels of the business are using the helicopter to advantage. These include representatives of supply firms as well as Magnolia's people — specialists in machinery, mud control, well-logging, drilling bits, equipment specialties and the like. Their time is valuable on any rig, and the company helicopter makes it possible for them to accomplish more in a given period of time.

While the helicopter was new and unfamiliar to Magnolia when it purchased the Bell, business flying was old hat to the progressive petroleum company. Its vast pipe line network has been patrolled by lightplanes for years and this activity has been reported in this magazine. It uses a fleet of business planes for all of its divisions — Luscombes, Cessnas, Aero Commanders, Beechcrafts and a Douglas DC-3. Sam Willis is aviation operations manager and chief pilot, his main base being a model company operation in Dallas at Love Field in a Southwest Airmotive hangar.

Magnolia's aircraft shops are set up just as completely and as efficiently as its production, pipe line, refining and marketing operations. When the helicopter was acquired, a base for it

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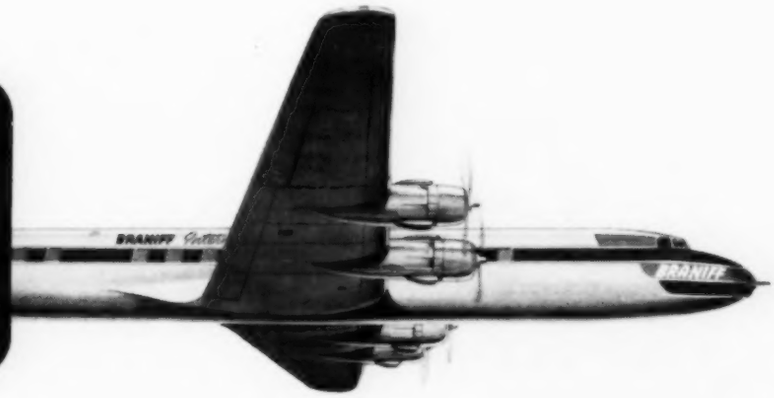

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PRODUCTION LINE FOR LEARSTAR BUSINESS TRANSPORTS is shown at Santa Monica, California, where the Aircraft Engineering Division of Lear, Inc., is scheduling production at two Learstars per month. The Learstar was CAA certificated last month under CAR Part 04b, meeting air transport requirements.

—(Lear Photo.)

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in a hangar at the Jefferson County Airport near Beaumont became just as complete in its scope as the company's off-shore drilling platform. Helicopter Pilot Rhodes and Maintenance Mechanic Barney Akins have a model parts and supply inventory, a thoroughly tooled shop and special handling equipment. Emphasis is on top-notch maintenance — both men are factory trained for their work.

"We haven't had any difficulties with the helicopter and we don't expect to have any," Willis explained. "We keep ahead of difficulties by continuous checks and inspections. For example, if a cylinder's compression is found lacking when we measure it with our equipment, we pull the cylinder and do what is necessary to restore the compression. We maintain spare parts and components for this so that time down is held to a minimum. We pull the sparkplugs every 15 hrs., installing a spare set while working over the ones removed."

Magnolia officials said they have obtained fullest cooperation from Bell representatives in establishing the helicopter operation. Bell's factory service to helicopter users is steadily expanding.

When we visited the base, the helicopter was about due for its first 200-hr. check, 195 hrs. having been logged since the Bell was placed in operation last November. Between Nov. 6 and Feb. 15, the helicopter had carried 362 passengers. Busiest day in passengers saw 20 persons airlifted. Six hours and 15 minutes were logged in the air on the busiest flying day. Busiest month was November with 62 hrs. 30 mins. logged. Annual utilization will run above 700 hrs. with one off-shore platform but would go higher with additional platforms starting up.

Magnolia recognizes and understands the helicopter's limitations as well as its potential usefulness in expanding oil production to new areas. Loads are held strictly within the Bell's limits, which is Pilot Rhodes plus 550 lbs. It is restricted to VFR daylight contact flying conditions with a 1,000-ft. minimum ceiling and 3 miles visibility.

It is too early to reduce the Magnolia helicopter operation to a statistical study, but company officials and Willis and his crew are enthusiastic over the flight and mechanical integrity of the Bell. It has proved to everybody's satisfaction that it belongs, that it is dependable oil country equipment out where the going's toughest. ★ ★ ★

AIR REPORT

(Continued from page 5)

BENJAMIN D. FOULOIS, pre-war chief of the old Air Corps, was honored in ceremonies at San Antonio last month celebrating the 45th anniversary of the birth of military aviation. Foulois taught himself to fly the Army's first plane, a Wright, and soloed at Ft. Sam Houston on March 2, 1910. He is retired and lives in New Jersey.

IMPROVEMENTS COSTING $700,000 will be made to Robert Mueller Municipal Airport at Austin, Texas, under a master plan being prepared by Gill & Willis, airport consultants of Dallas. They include a 6,400-ft. instrument runway with "Doolittle" clear zones at each end.

HILLER HELICOPTERS has sold 4 additional Hiller 12-B helicopters to the Siamese Police Force for delivery at Bangkok, bringing to 20 the number of Hillers used by the Siam government.

The American Association of Airport Executives, the Airport Operators Council and the National Association of State Aviation Officials have joined hands to conduct a **NATIONAL SURVEY OF FISCAL REQUIREMENT FOR EXISTING OR CONTEMPLATED AIRPORTS.** Questionnaire forms have been sent to all communities, aviation authorities and other key sources who are in a position to list the quantity and categories of airport development and construction proposed, funds locally available and what portion of the total projects proposed are scheduled for fiscal years 1956 and 1957. Copies of the questionnaire are available from Henry P. Julliard, Lee Terminal, Standiford Field, Louisville 13, Kentucky.

TEMCO AIRCRAFT CORP. SAYS IT HAS NOT SOLD THE LUSCOMBE AIRPLANE CORPORATION, THE LUSCOMBE NAME OR LUSCOMBE STOCK, as reported in this column last month, but that it has sold manufacturing and all other rights to the

Airmen's Calendar

March 12-17—Miami-Havana Air Cruise. Information and Applications from Harry B. Collins, Air Cruise Director, 375 NE 154th St., North Miami, Fla.

March 20-23—26th Annual Meeting, Aero Medical Association, Hotel Statler, Washington, D. C.

April 16-20—American Association of Airport Executives Annual Convention, El Conquistador Hotel, Tucson, Arizona; Reservations and Exhibit Applications to be Addressed to the Executive Secretary, P. O. Box 1191, Tucson, Arizona.

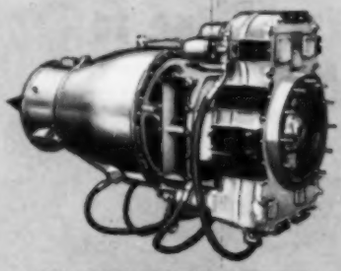
April 18-21—SAE Golden Anniversary Aeronautic Meeting, New York.

April 27-30—11th Annual American Helicopter Society Forum, Exhibits and Air Show, Washington, D. C.

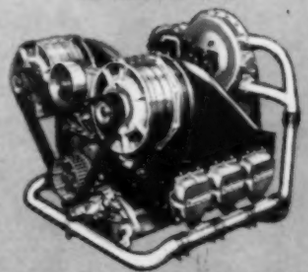
CONTINENTAL...

Out in Front in Helicopter Power

Outstanding Engines of Both Types...Piston and Turbine... Embody Results of Experience Dating from 1902



CAE MODEL 220 SHAFT TURBINE—425 H.P., 290 LBS.



CMC MODEL FS0470 SUPERCHARGED AND FAN-COOLED HELICOPTER ENGINE—260 H.P.

1905 S·A·E GOLDEN ANNIVERSARY 1955

New, modern helicopters are finding it increasingly beneficial to make use of the latest Continental developments for power production. Two examples of recently tested engines built around Continental power plants are shown. One—the Sikorsky XH-39 at left, above—employs the CAE Model 220 shaft turbine; the other—Cessna's CH-1 at right—uses CMC Model FS0470 piston engine. Both are unique.

The XH-39—first helicopter with completely retractable landing gear—holds the world's record for helicopter altitude (24,500 ft.) and in addition, the world's record for helicopter speed (156.005 m.p.h.). The CH-1 features simplified design, using one-third fewer gears. Location of engine in the nose makes for ease of access, promotes efficient cooling, and frees the center of gravity behind the cockpit for use in disposable load.

Thus Continental supplies each type of power plant to suit the peculiar requirements of two widely different modern helicopter design concepts. Additional power plants engineered for their suitability for helicopters will be forthcoming from the Continental organization within the near future, and great things can be expected.

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Silvaire line of lightplanes formerly produced by Luscombe. Buyer was Otis Massey of Ft. Collins, Colorado, who has moved Silvaire equipment and parts from Dallas to Ft. Collins. Luscombe ceased to exist as a corporation when it was merged with Temco in 1953 and all assets became Temco property. Some Luscombe stock shares still remain to be exchanged for Temco stock, however. Massey will supply Silvaire parts to owners of 2-place Luscombes from his new plant at Ft. Collins and eventually will assemble 2-pl. Silvaires there for the market, he said.

The Army Aviation School, Camp Rucker, Alabama, needs **CIVILIAN HELICOPTER PILOT INSTRUCTORS.** Application forms are available from the Executive Secretary, Board of U. S. Civil Service Examiners, Camp Rucker, Albama. Applicants must hold a currently valid CAA license with instructor's rating plus a minimum of 500 hours as first pilot in rotary wing aircraft.

THE PROPOSAL TO ELIMINATE THE ANNUAL INSPECTION OF CIVIL AIRCRAFT, substituting a periodic inspection to be conducted each 100 hours of operation or once a year, whichever comes first, and the discontinuance of annual relicensing of civil aircraft by CAA, is meeting with stiff resistance throughout the nation. Consensus of opinion is that airplane owners who properly maintain their equipment will do it anyway so why pin inspections down to a specific number of flight hours?

CONGESTION ON 122.5 TOWER FREQUENCY at three major airports has resulted in implementation of 122.7, the second of three VHF tower frequencies assigned for non-airline civil aviation. Los Angeles International, LaGuardia and Chicago Midway are now on 122.7. Others plan to follow shortly.

MONOCOUPE AIRCRAFT OF MELBOURNE, FLORIDA, has announced the establishment of temporary engineering headquarters at Midwest Field, Fort Worth, Texas, for the certification program of the company's light twin engine "Meteor." Frank Crosby, vice president and chief engineer, is in charge of the office. Location of the office in Fort Worth will expedite certification since regional CAA headquarters and all CAA engineering staffs for the region are based there.

BILL BERRY, who resigned in 1952 as assistant to the CAA regional administrator in Ft. Worth and took over Stuttgart Municipal Airport in Arkansas, has been appointed to the Arkansas Public Service Commission by the governor. Berry is also secretary-treasurer of the Arkansas Aberdeen-Angus Breeders Association.

E. L. (SLONIE) SLONIGER, veteran transport pilot who flew the first

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scheduled airline passenger in the U. S. back in 1921, retired as an active pilot last month after 37 years of professional flying. Former chief pilot with American Airlines, Sloniger joined the Air Transport Command during World War II, later set up air routes for China National Airways. On active pilot status with California Eastern Airways since 1951, Sloniger is not deserting aviation but will continue to serve in a ground operating capacity rather than in pilotage.

SOUTHWEST AIRMOTIVE has named George J. Kelley plant facilities engineer with W. J. Connell succeeding him as aircraft overhaul division superintendent of the Love Field firm in Dallas.

NASAO Takes Stand On Antenna Towers

The Board of Directors of the National Association of State Aviation Officials last month issued a policy statement on "The Location, Marking and Lighting of Radio and Television Antenna Towers." Pointing out that the scattering of television and radio towers over the landscape has approximately the same adverse effect on the safe navigation and operation of aircraft as does the installation of barrage balloons, NASAO urged the grouping of television towers in small areas in each community and the joint or common use of a single tower by several broadcasting companies. Ground radio transmitters and aircraft receivers and direction finders now exist which could be utilized to mark the location of TV and radio towers and indicate to the pilot their direction and approximate location if the towers are not scattered, according to the policy statement.

The group urged: (1) research and experimentation in methods, equipment and materials which might improve the marking and lighting of TV and radio towers should be expedited; (2) in order to conserve the navigable airspace, to reduce possibility of collisions and to increase the safety of all air transportation, the height of TV and radio towers should be limited to 1,000 feet above the surface unless shielded by existing obstructions; (3) the erection of towers should be limited to antenna "farms" in each locality; and (4) public and private agencies should be encouraged to provide antenna "farms" for use by the broadcasting industry in the manner that airports and landing areas are now provided for air transportation.

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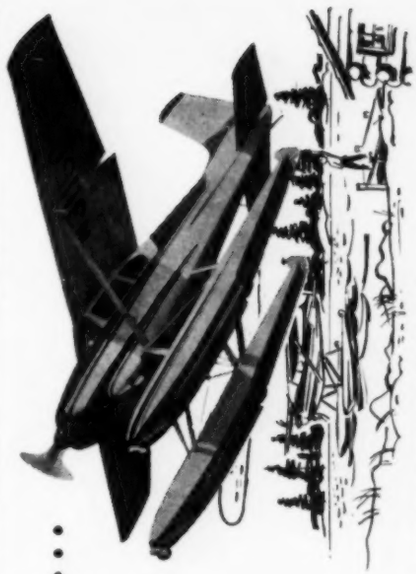

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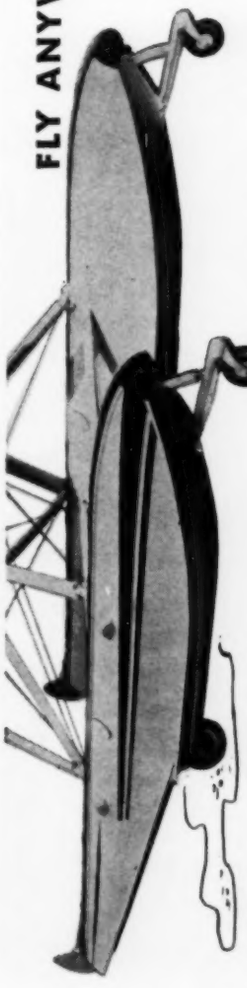

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QUESTIONS AND ANSWERS

(Continued from page 8)

a thing called "joint-use." We've probably got it and no doubt I use it, but, pardon me, what is it?

ANSWER: Chum, you should ask that kind of question just at a time when we were in high spirits and optimistic about general aviation. What are you trying to do—spoil our day?

The build-up of our defensive strength over the past four years has required extensive expansion of the airport facilities necessary to serve all of the branches of our armed services—the Air Force, the Navy, the Marines and the Army. This has had an effect on the needs of the Air National Guards and the Reserves as well as the regularly constituted active services. The missions include all phases of operations from helicopters through small fixed-wing Army aircraft to outlandishly fast jets. There were not enough purely military airports available to provide facilities to do the job.

As a result there has been a movement of defense aviation activities into public airports, most of which were impressed with some kind of a transfer document resulting from government ownership or leasehold rights arising from World War II ownership or use. In each of these transfer documents, quitclaim deeds, leasehold terminations or agreements there were some reservations which permitted use by government aircraft. We can't go into that complicated story. There was another factor which appeared four years ago. That was the hunger of local people for a military payroll.

Now we have no occasion to fuss about the use of public airports by military aircraft. Our national safety is of paramount importance to all of us. We are entirely in favor of use of existing airport for military purposes if that use fits into the pattern of need. We feel that with some exceptions civil and military aviation can live side by side. Both are necessary to our national existence. We won't even go into the argument we've heard many times that the government could more economically build entirely new airports at chosen locations rather than tear up and build anew on a surplus airport.

But out of this build-up has come that curious phrase you mention, "joint-use."

"Joint-use" means use by both civil and military aircraft of a common facility, the rights and privileges of both usually defined in an agreement of some sort. That sounds simple but it isn't. Here is the difference:

When an owning agency, a city or a county, retains ownership of its airport and, by lease or agreement, enters in an arrangement with a branch of the armed services under which its airport is to be used by both civil and military aircraft without any abridgement of civil use, that will not adversely affect you. Under that form of agreement the owning agency more or less retains its controls. There may be limitations which require two-way radio. That won't hurt you in your Cessna.

However, some of these agreements are much more restrictive. The owning agency may have agreed to limit its "joint-use" by civil aircraft to air carrier. That kicks you and all general aviation out unless there is locally a substitute public or private facility with adequate landing and navigation facilities and services. Where there is no such substitute, general aviation has no alternative except to fold.

Then there is the type of transaction in which the owning agency actually deeds its landing field to the government. Along with that conveyance there may go a document known as a "joint-use agreement." That may provide for use of the government-owned landing field by air carrier and other civil aircraft, usually with two-way radio. That use will usually be subject to pertinent air force regulations or the equivalent if it is another service. There are a number of variants in these "joint-use agreements."

However, those air force or other regulations put certain obligations

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upon the civil user which he must know before he uses the field. With only a few exceptions they require prior approval by the military, certain passenger bodily injury liability and property damage insurance with suitable endorsement protecting the government, and in many cases landing fees. There is embodied in the agreement under which the civil user gets the privilege of using the field a "hold harmless" clause.

This approval must be gotten by you for each such field you wish to use. You probably have the insurance and if you go into a certain such field with any frequency you can get the necessary approval. The procedure is time-consuming but once you have it you can use that airport, provided something else doesn't stop you, such as a field emergency.

This trend to deeding airports to the government stems from a growing desire on the part of many communities for "permanent" bases. The government can not build permanent-type bases unless fee simple title is owned by the goverment. That's the way we hear it.

Where that will hurt you is that the one-time use of such a field requires prior approval and it may be time-consuming. Local aviation services may be considerably curtailed if not almost eliminated by restrictions against some of the usages from which the operators had income.

Our recommendations would be that you do not plan a flight to any public airport without consulting your Airmen's Guide considerably in advance. You ought to do it anyway, but now it is especially important because of the changing conditions of military-civil use. There is a lot more to be said on this subject but let us wait in order to see how some of these arrangements work out. ★ ★ ★

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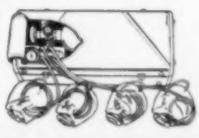

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